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AUGUST 1986

AMIGA
AMIGA

Commodore gets it right!

The amazing AMIGA – now at work in business and leisure – the definitive story

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GREAT AEGIS POSTER

Digital Solutions Inc. brings you the light with easy to use software specifically designed to use the power of your Commodore Amiga™.

Announcing:
LPD™ Writer
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Each of these programs give you all the functions you would expect from productivity software plus the following unique features:

LPD™ Writer, LPD™ Planner and LPD™ Filer can run individually or together. When running together, information can be transferred from one application to another manually, or automatically using "links", a transfer procedure unique to LPD software.

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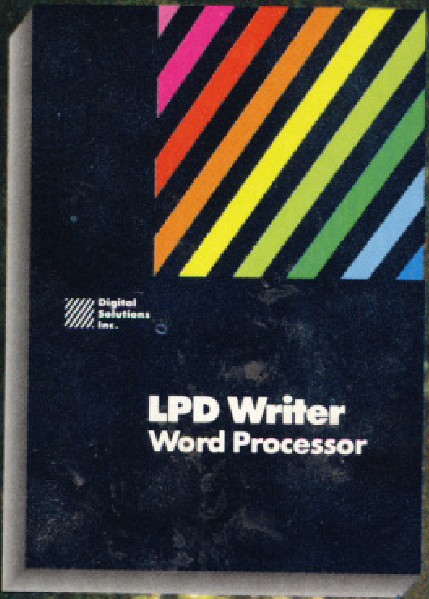
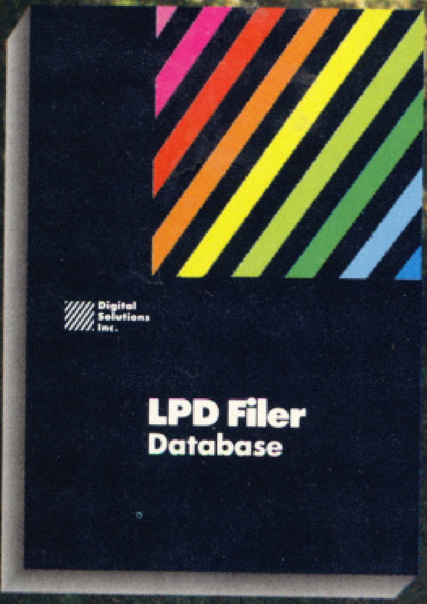
In addition, LPD™ Writer, LPD™ Planner and LPD™ Filer each have their own very special characteristics.



LPD™ WRITER/Word Processor*
multiple documents can be edited at the same time
more than one window can be opened on a document
on screen representation of documents as they will be printed (including line spacing, superscripts and subscripts)
on screen headers and footers
underlining, boldface and italic enhancement of text

Digital Solutions Inc.
LPD Planner
Spreadsheet

LPD™ PLANNER/Spreadsheet*
multiple spreadsheets can be manipulated at one time
more than one window can be opened on any spread sheet
spreadsheet size: 256 columns by 65,536 rows
sideways printing
cells can be displayed underlined, boldface and italicized
pie charts, line graphs, bar graphs and stacked bar graphs available
variable width columns
horizontal, vertical and "smart" recalculation



LPD™ FILER/Database*
multiple databases can be used at one time
more than one window can be opened on a specific database
multi-page record layouts
six field types: numeric, character, logical, date, time, note
user-definable order of field entries and default field values
calculations during record entry
databases may be sorted on multiple fields simultaneously
use of index files for fast access
report generation including headers, footers and record-by-record calculations.

Powerful software that's simple to use.

Digital Solutions Inc.

30 Wertheim Court, No. 2
Richmond Hill, Ontario
Canada L4B 1B9
Telephone
(416) 731-8775

*Available October, 1986

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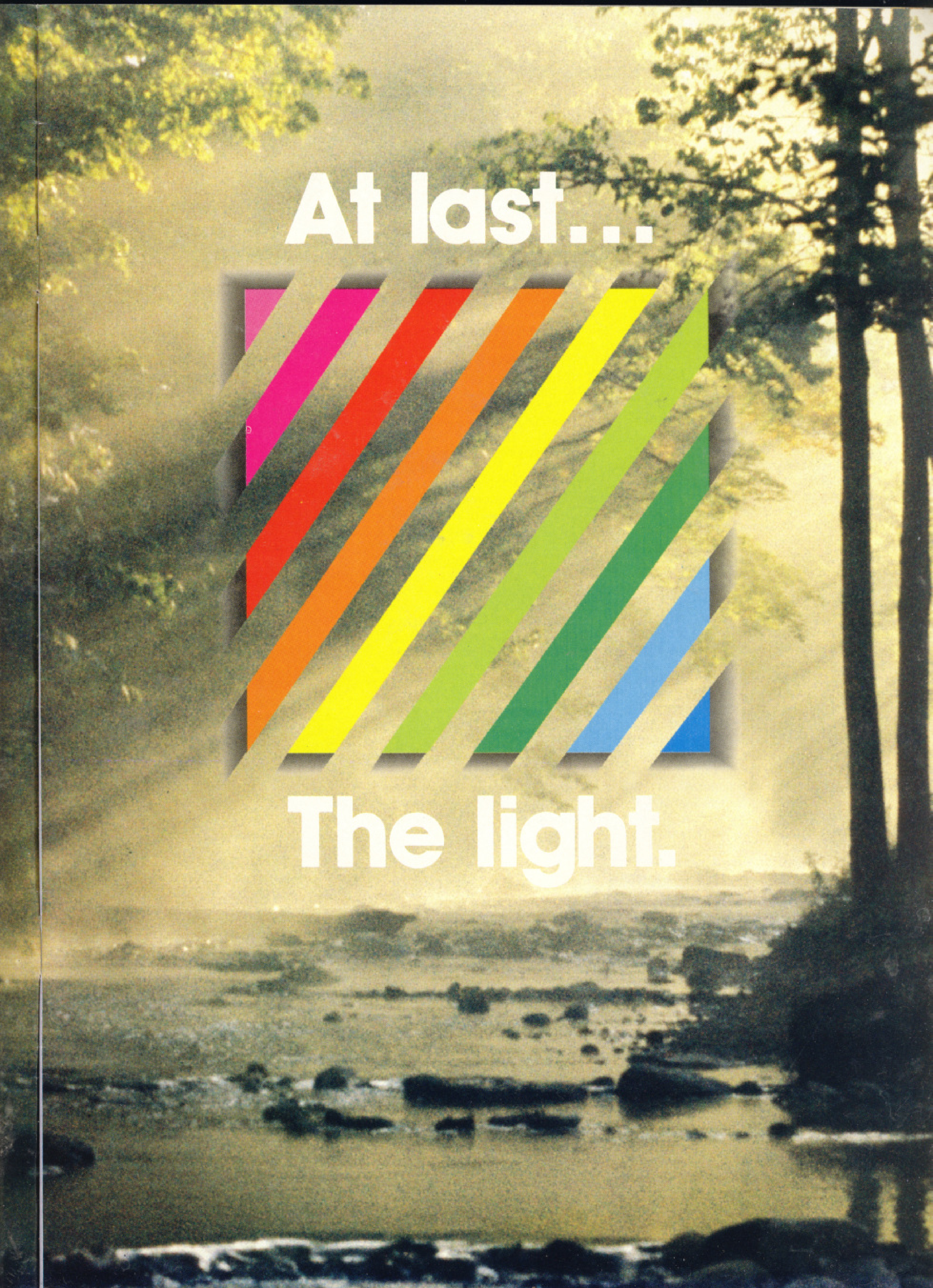

At last…
The light.

Com

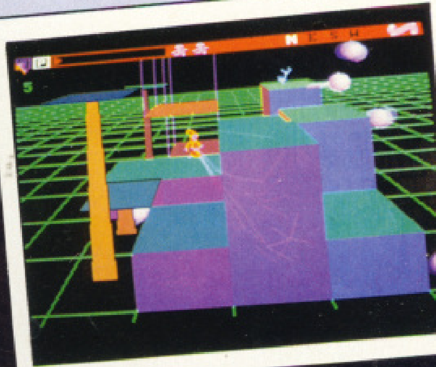
gets

The many months of waiting are now over and the AMIGA is freely available for sale outside the U.S. I use the word *'freely'* with some caution since there are reports of shortages although it is unclear whether this is a lack of dealers in some areas or genuine product shortages. So what does our new buyer get exactly for his $1600.00 or so?

I have detailed the prices at the end ot this article for the two configurations available. There is nothing between them other than System 2 contains an additional 3.50 inch disk drive. This system is well worth buying in preference to System 1 because having only one drive is restrictive on storage. Besides, slightly over 1.75 MBytes of storage is quite usefull and certainly opens up interesting potential to the user!

The system comes with 256k of user RAM in the system box along with an expansion card containing a further 256k of RAM. Wisely, Commodore have recognised that we want a 512k AMIGA and the expansion card is easily and neatly installed beneath a cover on the front of the system box. The next step is to connect the keyboard which has an expanding coil cable detachable at either end and then the mouse into the controller port on the right hand side of the system box. For those buyers with System 2, the external 3.5 inch drive has its own dedicated connecting cable and this is connected to the rear of the system box.

Finally, the 600 by 400 high resolution colour RGB(A) monitor is removed from its voluminous box and connected — the cable performing the audio as well as visual function. Note that the AMIGA comes ready with ALL cables to install the system, the only thing you need are two 13A plugs. After assembly which takes around 10 minutes, you are ready. By now you will have realised part of the reason why the AMIGA commands the price it does — the product simply oozes quality from the overall finish, standard of cables and connectors and not least the manuals.



MINDWALKER – "A State of the Art Experience"

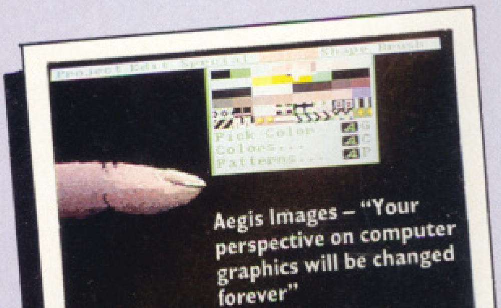
There are two sections to the substantial ring-binder which forms the User Manual. The first section deals with setting-up and operating the AMIGA — the second part is concerned with the AmigaBASIC. It should be noted that each section is in excess of 100 pages. The section of the manual covering the operation of the AMIGA is very well written and makes full use of screen shots (in colour too!) to put across difficult points. The BASIC manual is rather more terse in style, as appears to befit any programming manual. Nevertheless, no complaints about the standard of typography and production which like the first section, is excellent.

There are four disks supplied with the AMIGA, none of which is copy protected. The first is the KICKSTART disk which contains the operating system, the second disk holds the WORKBENCH. This is the WIMP environment and provides a highly effective and powerful but tractable user interface. I have overheard conversations that INTUITION, the basis of WORKBENCH is based on GEM. Believe me INTUITION runs rings around GEM in both speed and facilities, particularly on the latter. On the third disk there are two rolling demos, one about forthcoming releases from Electronic Arts, the second demo provides displays of dynamic graphic facilities. Finally, the fourth disk contains AmigaBASIC along with AMIGATutor, a very good teaching program which makes full use of the graphics of the AMIGA. The manual gives emphasis and very clear instructions on dealing with your first operation on the AMIGA — backing up to your two system disks and the AmigaBASIC disk.

AmigaBASIC was written by MICROSOFT and unless you have used MACINTOSH BASIC or QuickBASIC it is quite unlike any BASIC you have seen. It is extremely structured and powerful lending itself to comparison with PASCAL and COMAL and AmigaBASIC is rather fast — it's benchmarks are breathing down the neck of IBM BasicA. So what, you may say, BasicA is not that quick. Maybe not on an IBM-PC — the comparison I was making was with the **BasicA on the IBM-AT**, a machine costing THREE TIMES THE PRICE of an AMIGA.

Comms – "An extremely comprehensive package"

The memory of the AMIGA, that is *usable RAM for YOUR applications* is the full 512k. Note there is no loss of RAM caused by the operating system. This resides further up the processor address space and is kept locked from user intervention in an area termed the *'write protect store'*. The 68000 processor in the AMIGA can adddress 16MB directly and the AMIGA as it stands, is configured to take 8MB of additional RAM on the expansion bus. It is more likely that the machine could take 15MB although the power requirements would be quite high — you are looking at TTL supply requirements in excess of 20 amps for 8MB, therefore component cooling can become a problem if this 8MB consists of NMOS material — it rather depends very much on the ambient operating temperature. Hardware fans



Aegis Images – "Your perspective on computer graphics will be changed forever"

nmodore s it right!

will be pleased to learn that the 96 pin expansion bus on the side of the AMIGA gives FULL ACCESS to all of the internal machine buses and is to the MOTOROLA VME specification complete with AUTOCONFIG.

After switching on the AMIGA an icon or image appears on the screen which is a hand-held disk marked 'KICKSTART' accompanied by a little musical tune. This is the cue to the user to insert the KICKSTART (the operating system) disk — loading takes place in less than 15 seconds. Another icon then appears identical to the first except that the music is missing and the name is different. This time the disk is marked 'WORKBENCH' and the loading pattern follows the same course in terms of time. For dedicated applications, the WORKBENCH environment may be superfluous and rather than load the WORKBENCH disk you can at this point, put in your application disk. You will probably find that most currently available software (other than recreational material) runs under the WORKBENCH anyway, although the option not to use WORKBENCH can save memory.

At this point after loading WORKBENCH you should have facing you a blue screen along with an icon in the top right hand corner of the screen. The icon represents a disk and if you have more than one drive with a disk inserted, further icons will be present. The icon is named underneath with the name of the disk or 'volume' in AmigaDOS nomenclature. Along the top of the screen a running total of free user memory is displayed. Manipulations from this point are rather tedious to detail in print. The operations are considerably quicker to actually execute than to describe. I would strongly urge readers to view the AMIGA in the hands of someone who knows the machine and the software it is running to gain a more positive idea.

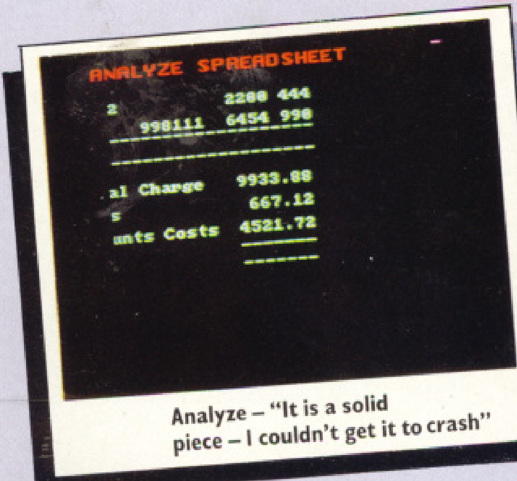
The graphic abilities of a personal computer are probably the easiest to assess since we can all use an ultra high-precision instrument named the human eye. Personal computer graphics have come a long way from the rudimentary shapes employed in the early recreational software. As time went by, objects and shapes became more closely defined until finally, the arrival of colour. It was undoubtedly colour that brought *'computers to the masses'* although the number of colours available was restricted in terms of the technology and price the consumer was prepared to pay.

One of the unquestioned strengths of the AMIGA is its graphic abilities. Not content with being fast — the range of facilities available make this machine a truly stunning performer. Couple this with the purchase costs of the system and the AMIGA has no real peers. But what are *fast* graphics, what does this mean to someone who has not experienced the AMIGA? In simple terms, the AMIGA has hardware that is fast enough to freeze, capture and then store video frames from either television or a video recorder. Graphs and charts are drawn do quickly as to be instantaneous. The use of multiple screens each of which can be at different resolutions and each screen can contain multiple windows all under the direct control of the user provides a rich environment for effective and creative work at any level of requirement.

The AMIGA has several quantitative levels of colour depending on the resolution demanded, however most applications software produced for the AMIGA to date provide 32 colours, twice that available in the PC market. Notwithstanding the fact that these colours can be selected from a choice of *palette* of over 4,000 colours, the user should have few if any difficulties in determining their exact requirements.

The range of software specifically for graphic applications is growing daily. The main source is the USA, because the machine has been in software developers hands for at least 12 months. Naturally European developers have some way to go to catch up. The standard user complaint of a software *famine* for a new machine was certainly true on the USA launch of the AMIGA. The benefit we have outside the USA is that software is available, your problem as a new purchaser is *knowing where to buy it.* Some of the graphics packages that are currently available are reviewed in depth in this issue.

Continued



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ANALYZE SPREADSHEET

2              2200 444
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al Charge       9933.88
s                667.12
unts Costs      4521.72
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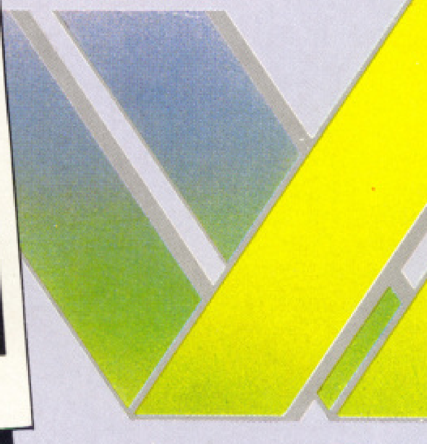
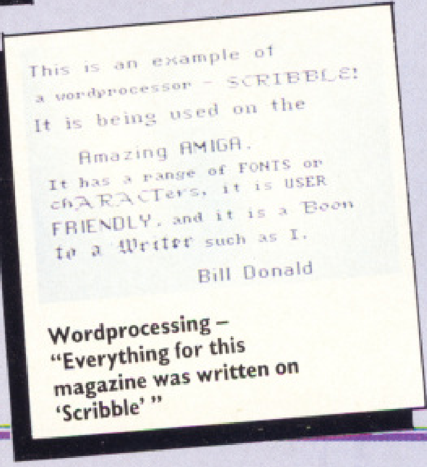
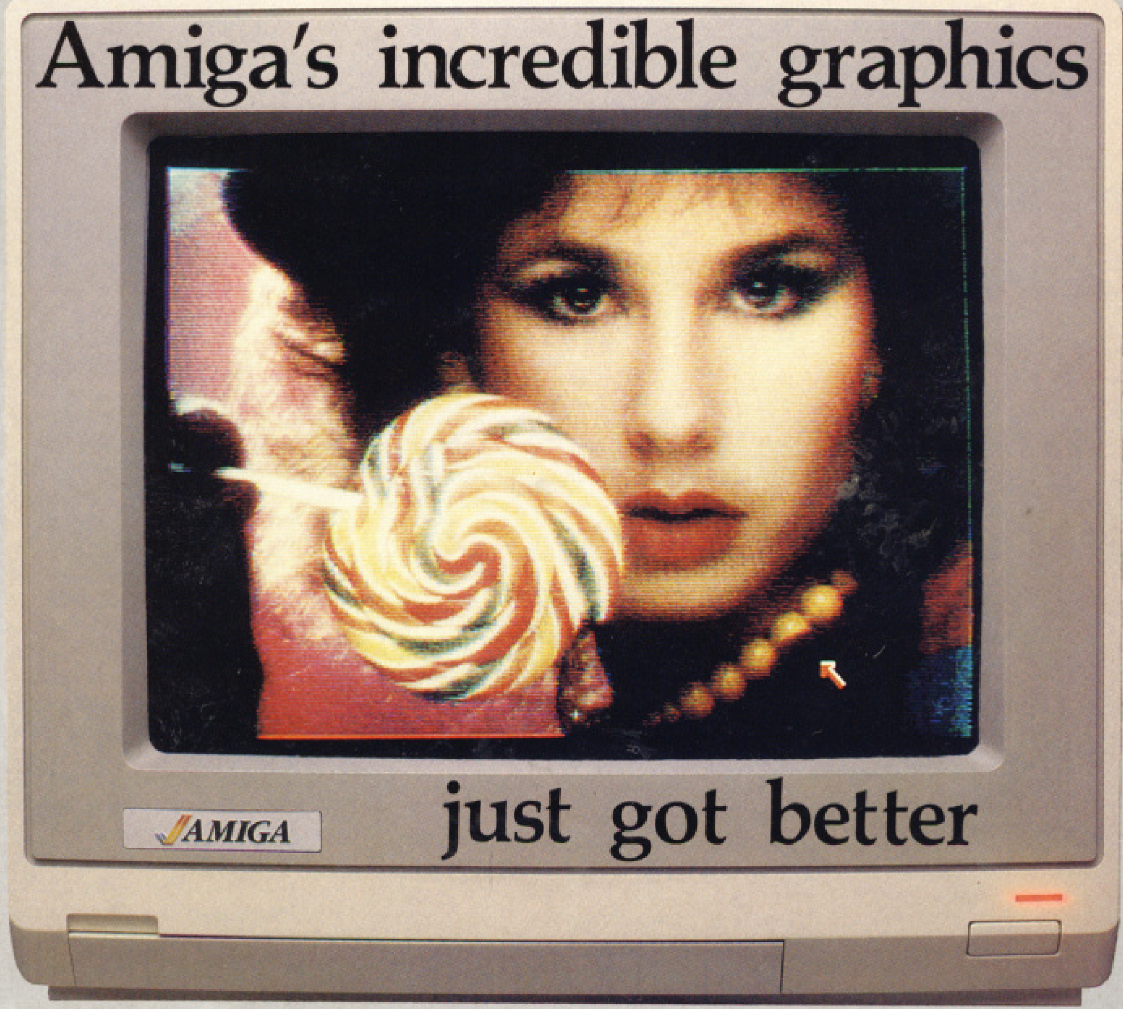
Analyze – "It is a solid piece – I couldn't get it to crash"





This is an example of
a wordprocessor – SCRIBBLE!
It is being used on the
Amazing AMIGA.
It has a range of FONTS or
cHARACTers, it is USER
FRIENDLY, and it is a Boon
to a Writer such as I.
Bill Donald

Wordprocessing – "Everything for this magazine was written on 'Scribble'"



Actual unretouched photo.

Aim your video camera and let **Digi-View** capture images with breathtaking clarity. Then use friendly, on screen controls to adjust brightness, contrast and color for the ultimate image. **Digi-View** uses the **Amiga**'s exclusive hold-and-modify mode and sophisticated dithering techniques to display broadcast-quality color photographs. **Digi-View's** superb color resolution is made possible by a precision color-separation process that uses color filters (included) and an inexpensive black and white video camera to resolve an amazing 21 bits per pixel, or over 2 million shades.

In the monochrome mode, **Digi-View** features resolution of up to 640x400 with 128 gray levels. Special image processing software eliminates flickering and contour effects. IFF disk format lets you transfer pictures to other **Amiga** graphics programs. For scientific image processing or just plain fun, to exploit the full power of **Amiga** graphics, see your **Amiga** dealer or call toll free for your **Digi-View** video digitizer.

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Capture time	
High-Res 640x400	20 seconds
Low-Res 320x200	10 seconds
Color Separation 320x200	30 seconds

Requires RS-170 Monochrome or RGB Camera with 2:1 interlace

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DIGI-VIEW

NewTek
701 Jackson
Suite B3
Topeka, Kansas 66603

So what are the benefits to buying an AMIGA? My answers would be as follows:—

1. The AMIGA is easy to use through the medium of it's graphical user interface WORKBENCH. This eliminates the tedious and time-consuming business of having to learn operating system command syntax, etc.

   Some time ago as an experiment I persuaded some complete computer novices to try my own AMIGA using the excellent AMIGA Tutor software. There was no involvement with myself other than to show them how to insert a disk. The average learning period in terms of the WORKBENCH environment was *less than one hour.* Some of these people professed to be anti-computer before starting and afterwards reported feeling much more confident and *less intimidated* by computers.
2. The graphics facilities offered by the machine put it at the forefront of personal computer ability. Video interaction, real-time animation and multiple resolutions are just some of the machine's features. Fast and comprehensive are the only two adjectives needed to fully describe these, the rest must be judged with your own eyes.
3. The sound facilities are far beyond the conventional tone-generator circuits found in conventional personal computers. With a frequency response range of 14kHz and the ability to digitise sound and speech the AMIGA's hardware on this topic are clearly both advanced and powerful. Not least, the clarity and quality of the sound in true stereo have to be heard to be appreciated.
4. The narrator device allows direct translation of on-screen text into speech, another first amongst personal computers at this level. The control afforded to the user without the need for advanced programming extends to selection of male/female, monotone/inflection and rate of delivery/pitch parameters. The process can be further enhanced by the use of phonemes to reproduce foreign languages and accurate dialectic speech in English.
5. The AMIGA is an open-architecture computer unlike other 68000 based machines from Atari and Apple. This means that a purchaser is not forever tied to the manufacturer's own peripherals and thus given freedom of choice. The other major benefit to users is that the main memory of the AMIGA is not permanently fixed in size and can be expanded by the dictates of the purchaser. A closed-architecture machine is not designed to be expanded by the user, a 512k MAC remains a 512k MAC until it dies.
6. All facets of the AMIGA's hardware and system software are well documented and this documentation is freely available now to existing and prospective purchasers at a *realistic cost.* The manufacturer gives unmatched support to registered software developers through the medium of dedicated bulletin boards, regular technical manual updates and a specialised technical reference journal acknowledged to be both accurate and informative.
7. The AMIGA offers true multi-tasking to the user through its advanced operating system which is founded on a system that has had many years of practical multi-tasking multi-user experience. The robustness and security of this system advances the AMIGA beyond any other so-called 'multi-tasking' system found at this level of personal computers. The multi-tasking facility allows 8 processes to operate simultaneously.
8. The storage media used by the AMIGA is not some obscure size that is difficult to obtain or suffers from excessive overpricing by dealers. The 3.50 inch disk format offers both high capacity and physical security to user data. The wisdom of selecting such a media vehicle is confirmed by the number of computer manufacturers now moving over to this size of disk such as IBM.

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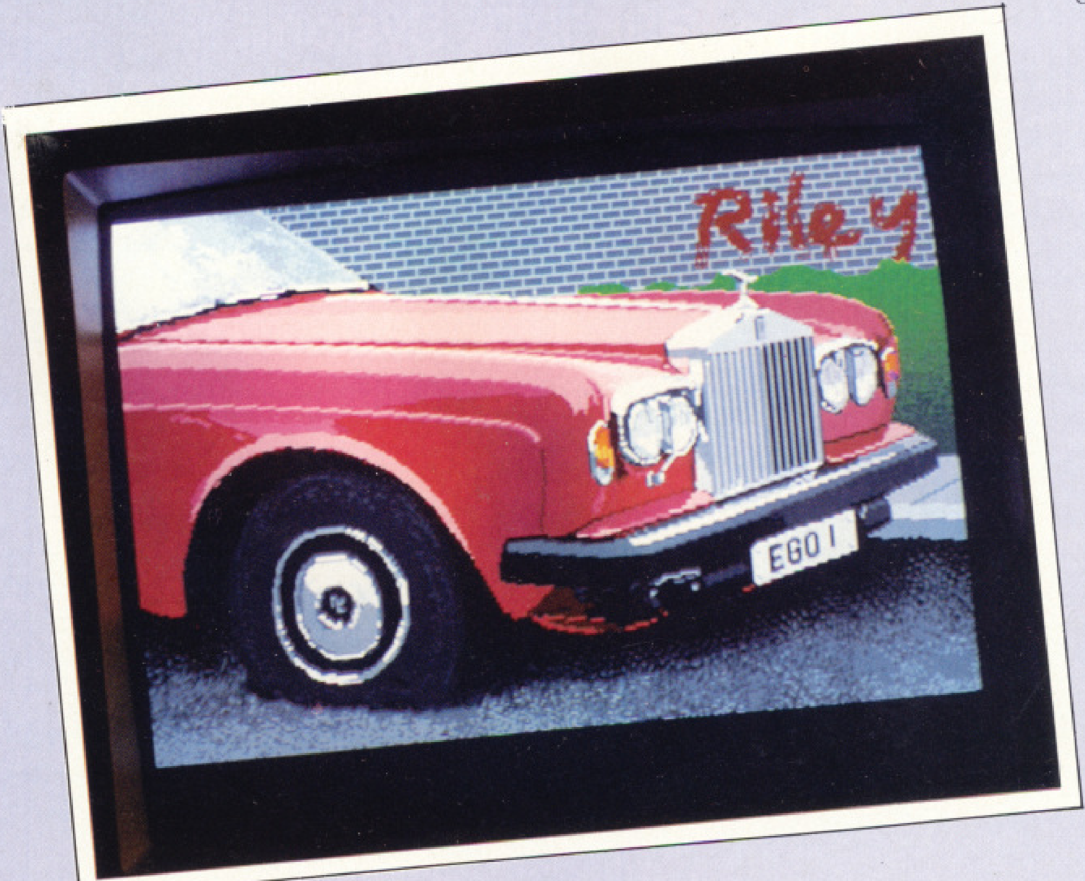
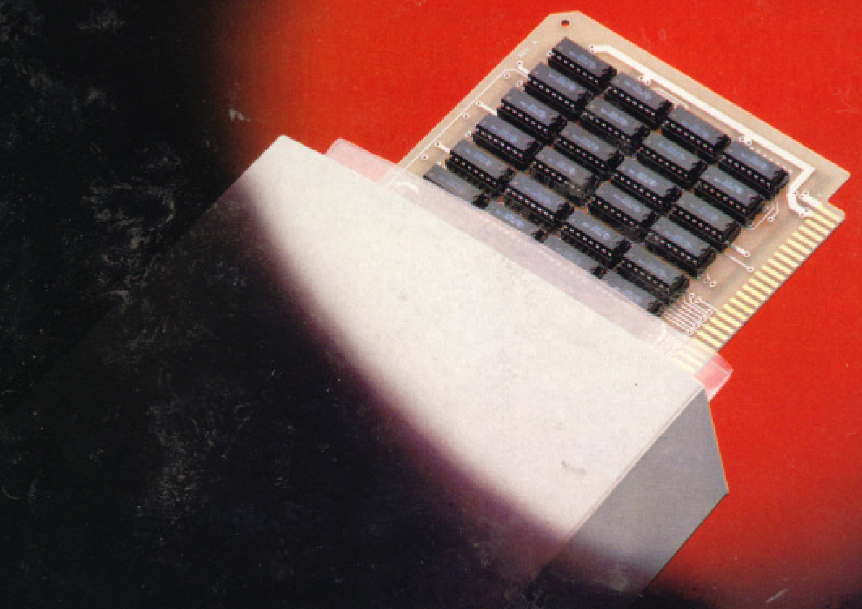


Open Up The Power!



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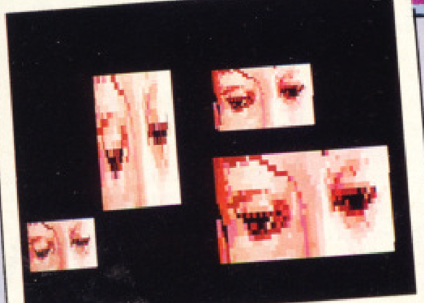


Animator – "The type of software that cries out for the user to start doing something"

9. The AMIGA *offers IBM-PC compatibility* through two routes — hardware and software emulation. The primary function of the AMIGA is to establish it's own dedicated software base which in realistic terms can take some time. It was designed as an AMIGA first, 'PC clone mentality' second. Users who have to maintain a library of PC-DOS or MS-DOS software or alternatively need to keep substantial volumes of data under this format can utilise the hardware or software emulation of a PC-DOS or MS-DOS environment. The degree of emulation is tied to limitations of both the IBM copyright of the ROM BIOS and the hardware itself, when all said and done the AMIGA is a 68000 machine. However, as a further demonstration of the inherent strength that lies in the AMIGA, the machine is capable of reading GCR disks in addition to the standard MFM format of AmigaDOS. Astute readers will realise the significance of this in terms of both Commodore and Apple computers. For the benefit of those who do not appreciate what this means — *the AMIGA is capable of reading and writing Apple and Commodore disk formats.* When both this and PC-DOS capability are realised, perhaps readers can appreciate the formidable power the AMIGA offers to purchasers. *There is simply no other machine available that can provide all of these functions* — unless of course you wish to start massive rebuilding of the hardware.

It is now more than eight months since I took delivery of my AMIGA. The system has been in use for many thousands of hours.

It is a North American software developers specification — meaning that it is designed for a 60Hz (plus or minus 10%) supply frequency at 115V — I take care of the voltage on a transformer, the frequency I can do nothing about thus the system (including the monitor) runs way below the recommended frequency.

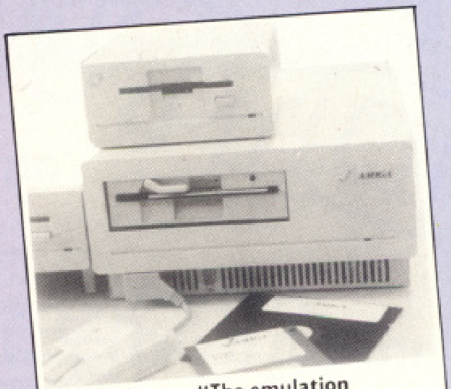
It has been transported from my home in Kent for demonstration purposes at two major exhibitions in London.

It has also been loaned several times to a major software house for intensive use in software development.

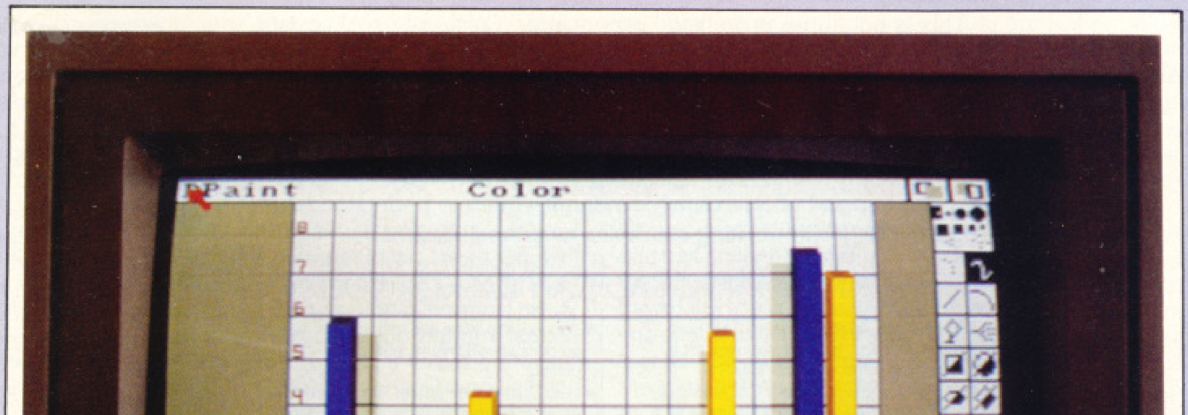
It has also been transported around Kent for demonstration to potential dealers and friends.

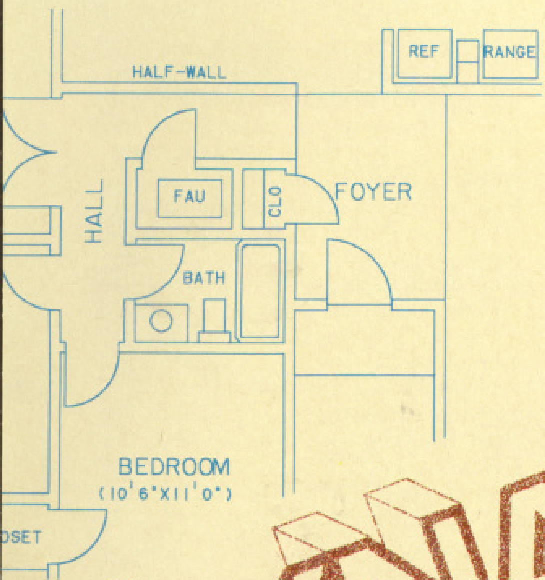
During this time my AMIGA has performed flawlessly. I rest my case on the question of reliability of the AMIGA.

OK, those are my reasons why you can safely buy an AMIGA now. Can you now give me reasons why I was wrong to buy it? The key that summarises the AMIGA to me is the word **FACILITIES**. Never before have so many facilities been packaged into an individual personal computer. I sometimes smile wryly when I hear uninformed comparisons made between the Atari ST range and the AMIGA. I reflect on the slogan 'Power without the price!' employed to market the ST. The slogan seems to be no longer used, maybe Atari heard my reply — compared to the AMIGA the Atari ST range is 'Price without the power!' surely? The affirmative 'tick' logo says it all. There is no doubt about it. This time Commodore got it right.



Sidecar – "The emulation device that allows the AMIGA *complete* emulation of the IBM PC"





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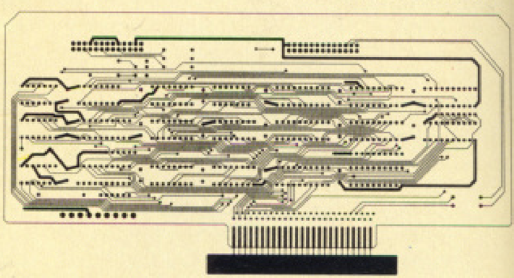
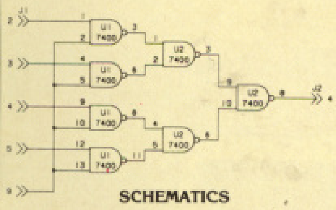


PRINTED CIRCUIT ARTWORK

Emerging from years of successful problem solving applications in piping, and electronics for the aerospace industry, DYNAMIC CAD has brought a highly advanced and powerful CAD system together with today's most dynamic and versatile micro-computer, the Amiga. DYNAMIC CAD takes full advantage of Amiga's extensive capabilities with color, multiple modes of resolution, mouse functions, and easily accessible pull-down menus.

This is not some promised "vapor-ware." DYNAMIC CAD exists now and comes to the Amiga with a proven track record. The time and money-saving applications of DYNAMIC CAD for engineers and architects are truly astounding. Here is an advanced, 2-D drafting system with isometric capabilities that can be combined with many models of printers, plotters, and digitizers. In getting started you'll have the support of an extensive manual written in understandable English along with working examples as tutorial lessons.



SCHEMATICS

SIGNAL NAME	COMP NAME	PIN NUMB	SOURCE	TYPE COMP
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S0001	U1	1		7400
S0002	J1	3	*	CON
S0002	U1	4		7400
S0003	J1	4	*	CON
S0003	U1	9		7400
S0004	J1	5	*	CON
S0004	U1	12		7400
S0005	J1	9	*	CON
S0005	U1	2		7400
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S0005	U1	10		7400
S0005	U1	13		7400
S0006	U1	3	*	7400
S0006	U2	1		7400
S0007	U1	6	*	7400
S0007	U2	2		7400
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S0008	U2	4		7400
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S0009	U2	5		7400
S0010	U2	3	*	7400
S0010	U2	9		7400
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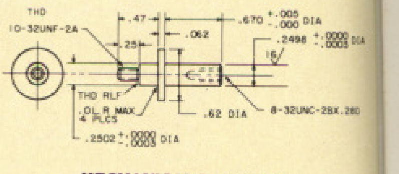
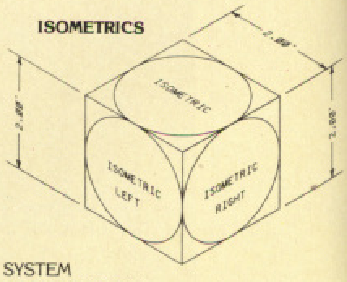
S0012	J2	4		CON

NET LIST FROM SCHEMATIC



MECHANICAL DRAFTING



WHAT DYNAMIC-CAD CAN DO FOR YOU

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- D·C will liberate you from the need to draw free hand.
- D·C has net listing capability from your schematic.
- Schematic comparison to your printed circuit artwork for continuity check.
- D·C can produce isometric views.
- Mil-Spec quality Leroy® fonts.
- Automatic line dimensioning.
- D·C includes a series of information libraries: Symbols, Electronic Parts/Chips, Architectural Components, Landscaping, etc.
- Data base to store and retrieve information on parts specifications, vendors, and pricing.
- Data base system utilizes ASCII format files which are convertable to other standards.
- Capable of utilizing up to 4,096 colors.
- D·C can generate over 8,000 layers.
- D·C supports most standard dot matrix printers, ink jet, lazer jet, pen plotters, and the Gerber* Photoplotter.

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REQUIREMENTS
512 K RAM
2 Disk Drives (or)
1 Drive and Hard Disk
Printer or Plotter

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Easyl Does It

Anakin Research Inc., of Toronto, Canada, have released EASYL, an Amiga tool for entering traced or original designs directly to the Amiga. EASYL works with popular packages such as Aegis Images or Electronic Arts' Deluxe Paint, or as a product on its own. EASYL is a pressure-sensitive digitizer which easily accommodates ordinary sheets of paper on an 8.5 inch by 13 inch surface with a resolution of 1024 by 1024 pixels.

The EASYL software allows easy access to all Amiga resolution levels from 320 by 200 to 640 by 400. It can be used by lefthanders or righthanders. Images created with EASYL software are in IFF format for easy interchange with other systems. Source is included for the software, facilitating special applications such as image processing.

Contact:

Anakin Research Inc.,
100 Westmore Drive,
Unit 11C, Rexdale,
Ontario, Canada M9V 5C3.

AMIGA Accounts

Three new accounting products are being launched for the Commodore Amiga.They are the new Total Office from Total Office Ltd, Positive Financial Accounting System from Positive Software Ltd and Impacct Integrated Accounting from Eidersoft.

Bringing accounting facilities to all types of business and utilising the multi-tasking capabilities of the Commodore Amiga, they are all easy to use and suitable for a wide range of applications from sales, purchase and general ledger to stock control and sales and purchase order entry.

Developed for the Commodore Amiga, the Total Office fully integrated accounts system comprises spreadsheet, nominal ledger accounting, cash book accounting, purchase ledger, accounts receivable and billing, and looks ideal for both low and high end accounting. Costing about £150, optional extras include a stock control system.

The highly popular Positive Financial Accounting System, previously available on the Apricot Xen and IBM PCs and compatibles, has not been specially configured for the Commodore Amiga and is designed for high end accounting applications. Offering standalone sales ledger, purchase ledger, payroll, stock control and general ledger facilities, this modular system also comprises invoicing, sales and purchase order entry, sales analysis and parts exposure and costs £285.

Impacct Integrated Accounting system contains sales, purchase and general ledgers, and stock control together with both sales and purchasing order processing. Written in Aztec C, this user friendly modular program also handles multi-languages and multi-currencies. Comprising five modules, each module costs £99.

Speak Easy

- **USA and Japan to collaborate on telephone-based translation system.** Japan and US are currently discussing a joint R&D effort to build an automated interpreting telephone system based on artificial intelligence technology.

MCS 256k Buffer

Leading British printer buffer manufacturer, Micro Control Systems (MCS), has broken new ground in terms of price/performance with the launch of a 256K internal buffer for Epson printers. Now available in both parallel and serial formats, the new model not only has double the memory capacity of Epson's own boards, but costs just £189, some 30% below the old list price for MCS's 128K buffer. In turn, the 128K board has dropped to an even more affordable £149.

Contact: Micro Control Systems, Eletron House, Bridge Street, Sandiacre, Nottingham NG10 5BA. Telephone: (0602) 391204.

Good Citizen
Citizen Printer Europe's President Morio Kizawa presents the Mayor of Hillingdon with 20 Citizen printers for use in local schools.

Absoft's AC/Fortran

Absoft has brought out AC/Fortran for the Amiga. It is an ANSI FORTRAN 77 compiler with debugger designed to run main frame programs on the Amiga. To facilitate development of large programs on a standard 256K machine, AC/FORTRAN has been designed as a disk based compiler requiring only 46K of RAM. Additional development tools include support of overlays, and virtual arrays as wel as dynamic linking of programs at runtime. The compiler comes complete with a full screen source level symbolic debugger, linker, library manager, IEEE single and double precision floating point software, complex number support, VAX extensions, and has no limitation on code or data size. Also included is the ability to interface with C, and option to generate assembler source, full interface into the Amiga ROM routines and a 300 page user reference manual. Available now, $295.

For Turbo Amiga users, Absoft has announced a version of their professional series FORTRAN 77 compiler that includes all of the AC/FORTRAN features as well as full support for CSA's MC68O20/MC68881 Turbo board. $495.

Contact: Absoft, 4268 N. Woodward, Royal Oak, MI 48072. (313) 549-7111. Telex: 235608.

AMIGA Distributor

Bradford-based distributors Eltec Computers have signed an agreement with Commodore to be one of only two educational suppliers nationwide for the new Amiga machine and other Commodore consumer products.

Eltec will fulfil a dual role for Commodore, acting as distributors to both the commercial arena and the field of education – an area where Eltec have specialised for some years.

Tom Hart, National Sales Manager for Commodore was positive about the choice of the rapidly-expanding Eltec Computers as Commodore's northern distributors. "Eltec enjoy a very good reputation in the trade for professional conduct and distribution expertise," he commented. "Coupled with their existing dealer network and strength in the education arena, I am confident that our two companies will enjoy a mutually beneficial relationship."

Eltec will be distributing all Commodore's current range, including the music keyboard recently launched onto the UK market for use with the 64 and 128 personal computers.

Intelligent Autoloaders

A range of Intelligent Diskette Autoloaders — designed for high speed, unattended diskette duplication — is now available from FORMASTER, UK leader in software duplication technology.

The Autoloaders will format, copy and verify diskettes then automatically place them in appropriate 'accept' or 'reject' output bins. Electronic sensors alert the operator when a bin is empty or full. Diskettes can then be removed without stopping operation.

By precisely placing each bit close to its ideal location, 'High Definition recording technology' is claimed actually to improve the quality of the disk over the original. It dramatically reduces peak-shift or bit crowding by over 35%, lowering the number of error reads.

Changing diskettes at twice the speed of previous loaders, the new units can reduce copy time by up to 8%.

The two machines in the range allows for 3½ inch and 5¼ inch disk drive types, including the high density 96 TPI (AT) type. Hardware and software interfaces are available for host computers or for the FORMASTER Series One Controller.

Price: *£5900 (+ VAT).*

Contact: *Formaster, Tel: 0753 820981.*

Digital Range

Digital Solutions have launched some interesting AMIGA packages designed to run alone or integrate. The three packages, LPD Write, Planner and Files, have a unique 'link' transfer proceedure, use 'windows' and allow 'zooming'. The LPD range is being marketed as powerful software that is simple to use and increases productivity.

(Digital Solutions' LPD range will be reviewed in the next issue of AMIGA USER.)

Free Disks

Compumart, the Loughborough based blank disk mail order company are celebrating their birthday with some amazing offers on blank disks.

With 5.25" disks they are giving away 2 free disks with every 10 purchased, they have also reduced the price of 3.5" disks by over 20%.

Compumart told us: "With our group buying power we have managed to force the price of disks down. Our company policy is to pass any price reductions straight onto the end user, so we're not only giving 2 free floppy disks away with every 10 purchased, but we've slashed the price of 3.5" Microdisks too.

Compumart have just moved into a new warehouse, their new address is Unit 8, Falcon Street, Loughborough, Leics. LE11 1EH. Existing 'phone numbers, (0509) 262259/233893 still apply.

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AMIGA DATABASE

Taurus Impex are releasing Acquisition an interestingly original Database for the Amiga.

Acquisition is a database management system utilising the power and innovation that the Amiga has to offer. It incorporates a mapped filing system organised around paths, which allow both relational and hierarchical filing structures, or a combination of features of both. Acquisition provides mutlitasked access to the filing system, handling up to 16 files in one application. Full use of windows, icons and mouse-driven control are provided. System design is two-tiered between file structure and applications and report systems for manipulation of data. Both tiers can be designed either in the Acquisition editors which can be operated solely by use of the mouse and displayed menus if required, or by writing direct to Acom, the Acquisition database language, which contains over 250 different functions and can be translated into C, Pascal or Basic. Acquisition provides a fully-integrated environment on the Amiga which can communicate with other packages on the system and read and write information to and from them. A variety of data and field formats are supported and Acquisition can store images as data as well as text and numerics. The effective limits of a database's size and complexity are set by the machine and not by Acquistion, the flexible and open-ended environment is supported by a clear command structure, enabling the non-programmer to develop a complex system in a matter of hours. The database can be amended and enlarged at any time without loss of data. A full review of Acquisition will appear in the next issue of AMIGA USER

Contact: *Taurus-Impex Ltd., 3, Bridge Street, Guildford, Surrey, GU1 4RY. England. Tel: (0483) 579399*

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LEADING THE FIELD IN 68000 SYSTEMS SOFTWARE

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Precision Software

No follower of UK software houses can have overlooked the progress of one of our top rated suppliers to the Commodore market, Precision Software.

Founded in 1980 by John Tranmer, Precision actually began life as a software consultancy specialising in Data General minicomputer packages. Only in 1982 did the advent of the original Superscript at that year's PET show give Precision a window into the consumer market. Later the same year the company struck a deal with Commodore that made Easy Script the standard word processor for the Commodore 64, all over the world. Assured of success and recognition, Precision embarked on their most ambitious consumer product: Superbase 64.

Here was the program that would finally establish Precision's reputation as a leading Commodore publisher. Few people had realised that the Commodore 64 would sell in millions, extending significant computing power into large new market sectors. None saw as clearly as Simon Tranmer, Precision's gifted chief designer, that among all the new users would be a large group desperate for a program to make the 64 a serious proposition as a working computer.

Superbase was born in August 1983 and immediately acclaimed as by far the best database manager for the 64. Little else has come close in terms of power and flexibility, especially in the area of programming. Superbase 64 with versions for the 8096, 700 series and most recently the Commodore 128 is still top choice as the standard for heavy duty business use on those machines.

Most notable is Precision's success in shoehorning both Superbase and Superscript, their much praised word processor, into the 128-D's memory at the same time. The co-resident combination of programmable database and word processor gives the 128-D formidable capabilities as a business system, as users all over the world, some 600,000 of them, have affirmed by voting with their wallets. Translated into eight languages, the 'Superbase-Superscript' system is a remarkable example of innovative, world-class British software technology.

Now if you go down to Precision's sales showroom in Surrey, you will see the company has moved to another stage in its progress. You will see the new Superbase, running, of course, on the Commodore Amiga.

It is as Dr Bruce Hunt, Precision's Marketing Manager is at pains to point out, a completely new program. 'The only thing that is the same is the name. We've redesigned from the ground up, writing in 'C', to give ourselves portability for the future. At the heart of the program is a 'no-limits philosophy' - we just want to take away the burden of maximum record sizes, limitations on open files and indexes, tedious concerns that should be consigned to the past.' It's a friendly and handsome looking beast too, with a panoply of pull-down menus and multiple windows, and a clever use of symbolic controls borrowed from familiar tape-recorder conventions.

Superbase Amiga, in all its relational glory, will be out at the end of the summer. John Tranmer, fresh from visiting Precision's USA distributors, expects substantial orders from existing Superbase customers in North America, as well as Amiga users who are crying out for a major league database. Sales Director Nigel Lovett-Turner is equally positive about Europe and the rest of the world, though he won't be drawn on deals already in the bag.

AMIGA Development

Back in the UK, Precision is moving into software distribution. In an astute move, they have acquired the rights to the family of Amiga graphics products from Aegis Development. The leading produce is Animator, a unique animation design system. Images, a professional level paint program, and Draw, a comprehensive CAD system, complete the current range. Impact, a spectacular graphing product, is due for release in a few weeks. The Logistix integrated spreadsheet, database, graphing and time management system is also available in Precision's Amiga software lineup. Together with 20 and 40 Mb hard disk drives, 2 Mb RAM expansion, and Canon colour inkjet printers, Precision's range of Amiga software gives the Amiga resounding credibility as a creative and productive business system.

'Amiga and 128 software and hardware is not the sort of thing you buy without a demonstration. We're encouraging customers to ring in for details and then follow up with a visit to the showroom. Most items are available now from stock, so there won't be any wasted journeys.'

In over four years as a software publisher, Precision has seen its share of ups and downs. The volatility of the market place has seen to that. 'You can't second-guess every twist and turn in fashion at this end of the industry,' observes John Tranmer, 'product life cycles can be ridiculously short. But with the new Superbase we have a powerful database manger we can move onto new machines as they appear. That gives us a chance to build on what we've done.' There are few enough British programs capable of competing in global markets, and Superbase has got to be judged on its record — which makes a world leader. Precision is a company to watch.

AMIGA
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- ★ Aegis Images – Professional Paint System
- ★ Aegis Animator – Artist's Animation System
- ★ Aegis Artwork – Collection of Clip-Out Images
- ★ Aegis Draw – Computer Aided Design
- ★ Aegis Impact – Executive Graphics
- ★ Logistix – Spreadsheet, Database and Time Management
- ★ MiAmiga File – Filing System
- ★ Gizmoz – Office Desk Utilities
- ★ Digital Link – Communications, VT100 Emulation
- ★ Lattice C Complier
- ★ Cambridge Lisp
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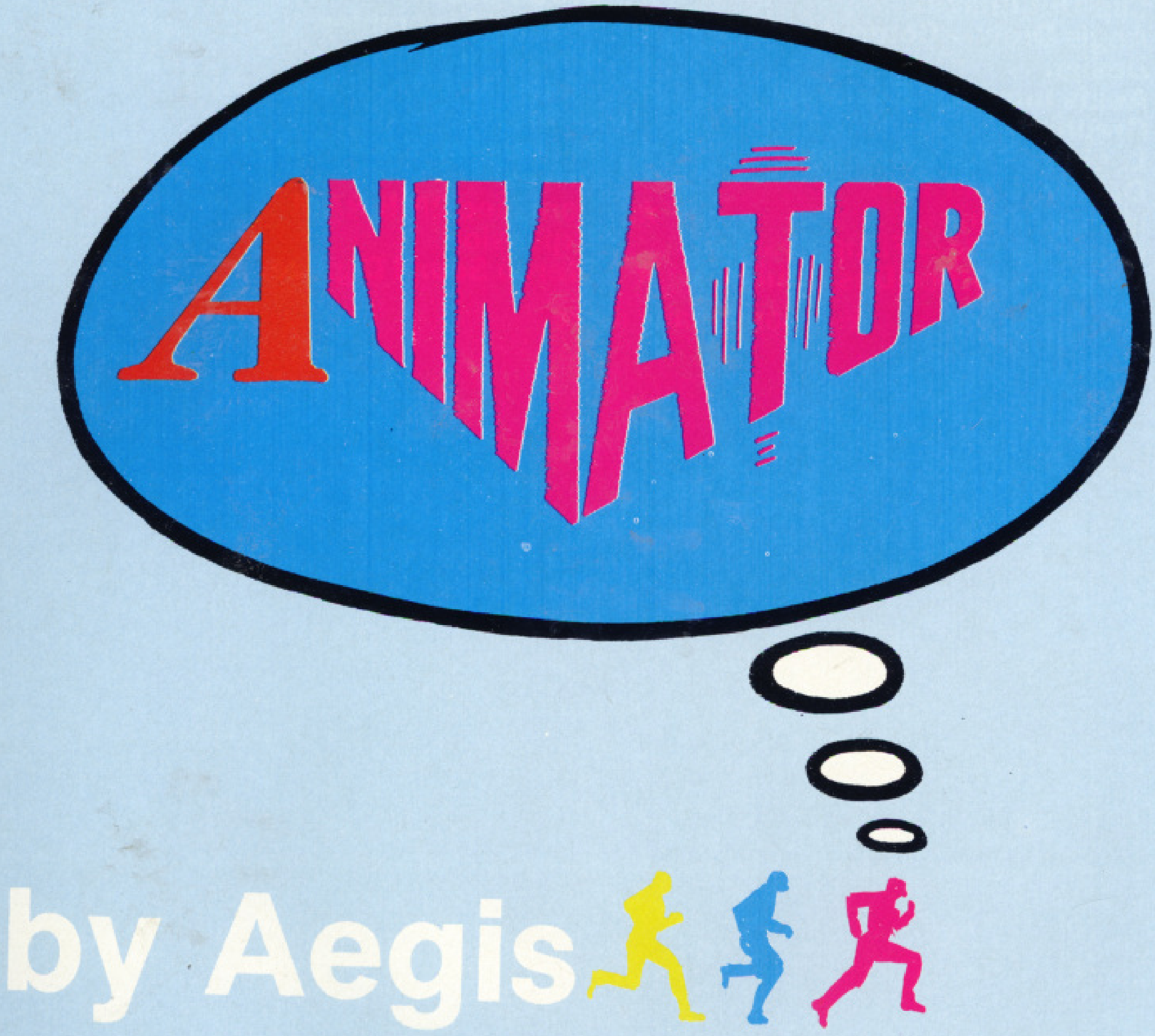


ANIMATOR

by Aegis

THE AMIGA is the first personal computer to feature true animation — that is direct control over the movement and shape of the components of a user-defined object in addition to the object itself. AEGIS ANIMATOR allows the user to define objects in 32 colours from the master palette of 4,096 and then change the object's size, shape or colour. The object can be dragged, rotated or a path plotted for it anywhere on the screen. The user may create up to nine script or event-sequences and cut or splice these scripts into a storyboard. Backdrops to the animation events can be loaded in — the backdrops having been previously created using AEGIS IMAGES, GRAPHICRAFT or DELUXE PAINT or another paint/draw package that supports IFF file structures (see AEGIS IMAGES review in this issue for more details of IFF FILES.Ed.).

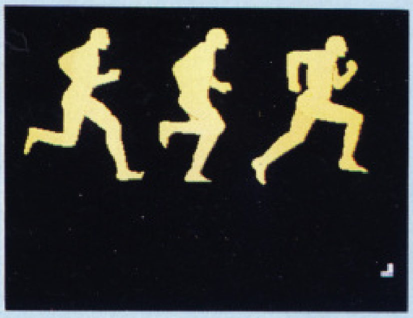
ANIMATOR operates by using the concept of 'tweening' to provide metamorphic animation. Each 'tween' is a segment of time and by altering the shape or position of the object at the start and finish of each segment an animation sequence is built up. The time element of each tween can be varied by the user and may be a unique value. This is different from the other more well known type of animation where the artist produces a frame for each individual sequence. ANIMATOR cuts down considerably on this amount of work since basically all the user has to do is define the beginning and end points in terms of the objects shape, position or colour.

The product is packaged in much the same form as AEGIS IMAGES — an unprotected disk and 100 page book serving as the manual. In fact it is probably wiser to purchase ANIMATOR package as opposed to IMAGES since the latter is supplied together with ANIMATOR. At this point I must stress that animation is extremely memory consuming. So much so that even on 512k of RAM I found ANIMATOR to be pushing for more. It would be a wise move to give consideration to expanding the memory of the AMIGA if you intended purchasing ANIMATOR for professional purposes. The manufacturer has made allowances for running out of memory by incorporating a safety net employing the Alerts system within INTUITION. This operates by warning the user that memory is running out and gives the option of switching out certain facilities of ANIMATOR. If this is still not enough then ANIMATOR initiates a cycle of saving script files back to the disk before anything dramatic happens, an excellent and intelligent use of the system software facilities within the AMIGA. The operating environment of ANIMATOR follows much the same pattern as IMAGES and uses the menu and window structure of the Workbench. It is worth noting that on a 512k machine you can save on precious memory by running ANIMATOR from the CLI (command line interface) or AmigaDOS level. The point I am making here is that AmigaDOS does use some parts of INTUITION, the underlying structure of the Workbench just in case you were not aware of this fact.

The first group on the menu is concerned with the saving and loading of files and is titled *Project.* Happily the magic command *undo* was also present — this eliminates the effects of the last user instruction within ANIMATOR. Data files are termed scripts, a sensible name since we are dealing with techniques from an established industry. There are other types of file which are distinguished between by the usual AmigaDOS technique of suffixes. Thus backdrops become *.pic* files colour palette tables are *.col* and so on. Scripts are read into the *storyboard* which is rather like a memo pad containing the details of the animatory sequence. ANIMATOR allows for 9 storyboards and the user can cut and paste between each. This is obviously a flexible and powerful technique since users can build up libraries of routines rather like professional computer programmers.

The *Project* section also contains the *time* and *color* controls. The latter operates in much the same way as IMAGES albeit on a rather more restricted manner. For instance the number of options are fewer, although do not let this distract you from the main purpose of this application — namely animation. Highly detailed images are created using IMAGES and then components of these images are then taken by ANIMATOR for work-up into the animation sequence. The *color* facility within ANIMATOR is there essentially to put a final polish on the animatory object. The *time* option sets the parameters for the *local* speed and *global* speed.

In animation different components of the object move at different speeds. For example, consider a scene where a man walks across the screen — his legs will be moving at a different rate of speed compared to his swinging arms. There are three time variables here — two *local* parameters viz. the object's arms and legs and the *global* parameter which controls the speed at which the object traverses the display. Take another example, this time from presentation graphics — a box appears in the centre of the display and proceeds to enlarge itself. During this enlargement process which could represent a company or product's growth, the box spawns another object — for example a circle representing a satellite product or company and it too proceeds to enlarge or grow, this time at a different rate. Only two time parameters here — the major object being the box and the minor object consisting of the circle, the former controlling the *global* variable, the latter running under the *local* time variable. Both examples are crude and possibly trivial but I hope you have grasped the point over the difference between *global* and *local* speeds. The final two selections in the Project menu are *status* and *exit.* The former is quite important since it is advisable to keep an eye on the memory remaining if you are running ANIMATOR on a 512k machine.



The next part of the menu bar is the *Create* section. There are a number of preset shapes present in this selection such as stars and circles — the prime choice here is usually the polygon option. This allows the user to draw an object free-hand with an option to produce either an outline or fill, that is filled with the same colour as selected from the colour palette. Further down the *Create* section the useful *clone* option exists to increase productivity whilst the *destroy* function provides an escape for any errors made during creation. There are no limits on the number of clones that may be produced.

We now shift attention to the real crux of ANIMATOR, the *Move* selection. This group controls the different methods of moving objects around on the screen such as dragging, moving, rotating or resizing. There are three types of object rotation within ANIMATOR — around the X-axis, Y-axis and in the plane. Note that the centre of rotation does not have to exist within the object itself, it may be defined anywhere on the screen — leading to some interesting and unusual effects. Object resizing has already been discussed and there is sufficient intelligence within ANIMATOR to be able to distinguish between overlapping objects after a resize has taken place. *Morph* is probably the cleverest part of the whole package since this allows redefinition of an object's shape. For example, consider a circle — calling the *morph* function will create a series of points around the circle. By engaging the points using the mouse controls the circle is pulled out of shape. I suppose the nearest I can describe is *visual plasta cine* or *computerised working in wax*!

The two remaining functions on the menu bar are *Time* and *Color.* Note that *time* in this context is different from the function with the same name in the *Projects* section. *Time* controls such matters as moving to a specific tween, looking at the beginning or end of a tween, replaying some or all of, or looping the tweens in an animation sequence or *script.* The aptly named *ghost mode* is used to describe the entire animation in outline form. For example, backdrop windows would be seen sliding into the display, the mask frames could be viewed to endure that their placement is correct on a backdrop frame. You will find that *ghost mode* is used quite extensively during the creation cycle in order to see just what is going on. Indeed using this mode is an excellent way to uncover techniques used by other (more skilled!) users.

ANIMATOR is the type of software that cries out for the user to start doing something. Admittedly, this is rather a difficult request to deny since everytime it is used I find I have learned yet another new technique. The possibilities that ANIMATOR opens up are huge — it is the first genuine animation package offered on the PC market. The cost/benefit ratio in terms of a *total* animation system cost are ridiculously low. It is extremely fast and open to importing other files from other software. With ANIMATOR even in the hands of a relative novice, presentation graphics can take on a new dimension.

This package continues to teach and amaze me after several months of use and remains one of my favourite pieces of AMIGA software. The few rough edges are compensated for by the facilities on offer. Considering that IMAGES is included in price, the total package is an absolute bargain. For the benefit of readers who are seriously interested in the range of facilities offered, I have listed the functions on the next page.

PROJECT

Undo	Disregard previous user instruction
Fast Menu	Toggle the fats menu window
New Script	Erases the current script
Storage	Displays the storage requestor
Storyboard	Transfers program control to the Storyboard
Color	Displays the colour requestor
Time	Displays the time requestor
Status	Displays the residual memory
Exit	Leave the program

CREATE

Line	Creates an object that is single line
Polygon	
filled	Creates a solid free-form shape
outline	Creates an outline free-form shape
Circle	
filled	Creates a solid circular object of 16 points
outline	Creates an outline of a circle
Star	
filled	Creates a solid 5 sided star object
outline	Creates an outline of a circle
Block	Creates a 4 sided raster object
Clone	Duplicates a selected object
Destroy	Remove an object

MOVE

Move	
sideways	Drags the current selection around the screen
in	Moves the current selection inwards through successive planes. Perspective available from fast menu selection with this option
out	Identical to *in* facility
Rotate	
in plane	Move the current selection around an indicated centre without changing the current plane
around X	Moves the current selection around the x-plane
around Y	Moves the current selection around the y-plane
Size	Enlarges or shrinks the current selection
Path	Plots a course for movement of current object

Change color	Changes the current selection colour to that of the colour at the beginning of the tween
Change type	Changes the object type to outline, filled or line
Morph loop	Change the shape or position of current object by moving points that make up the object
hook	Changes the shape or position of current object by moving, adding or deleting points on the object

SELECT

Point	Makes the current selection active on an individual point only
Points	Makes current selection active on multiple points with points not necessarily on the same object
Segment	Makes the current selection active on a portion of a single object
Polygon	Makes current selection of any one object
Polygons	Makes current selection of multiple object
All	Makes current selection of all objects in current animation

TIME

Tween	Advance current position to next tween or creates a new tween if non exists
Replay Tween	Plays back the animation in the current tween
Replay All	Plays back complete current script
Play Loop	Replay current script continuously

Ghost Mode	Displays all objects in outline graphics
See Tween	
at end	Makes objects appear in the position they would be at the end of each tween
at begin	Similar to above except that objects appear at the start of each tween sequence

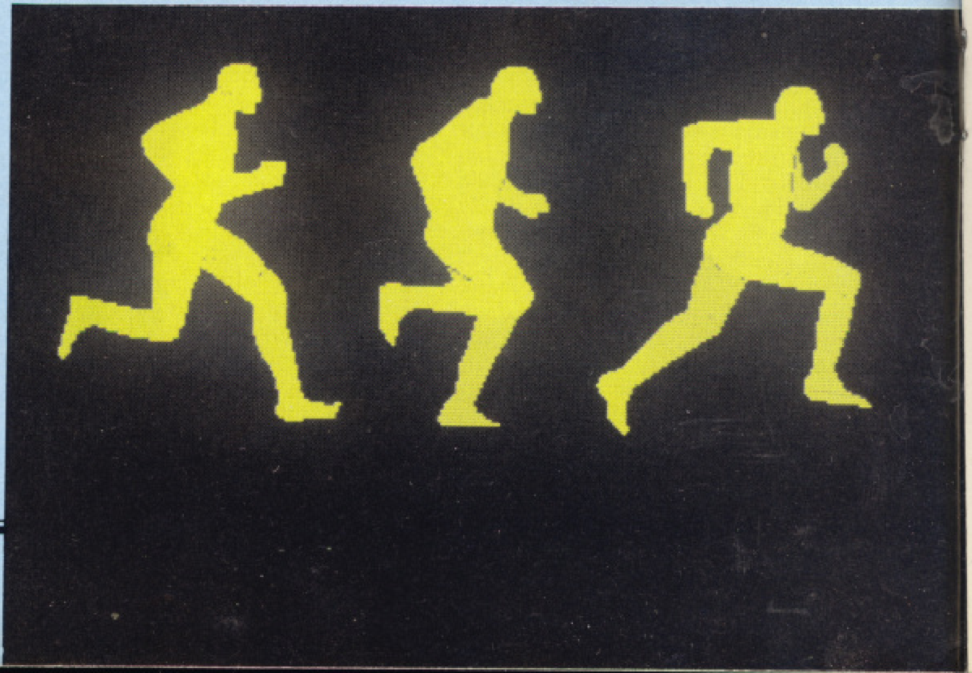
COLOR

This displays the current colour palette. Palettes may be loaded and saved like files

STORYBOARD

Project	
go into	Enter edit mode in the selected window
speed	Displays the time requestor
about Ani	Details of the software
status	Displays the remaining memory
exit	Leave ANIMATOR
Edit	
splice	Copies the current tween and any future tweens to another window
cut	Cuts the current tween and any future tweens to another window
delete	Remove the script from the indicated window
activates	Same as *Play Loop* in the indicated window

ANIMATOR SUPPLIER:
Aegis Development, 2210 Wilshire Blvd., Suite 277, Santa Monica, CA 90403, USA.
ANIMATOR – UK Distributor:
Precision Software Ltd, 6 Park Terrace, Worcester Park, Surrey KT4 7JZ. Tel: 01-330 7166.



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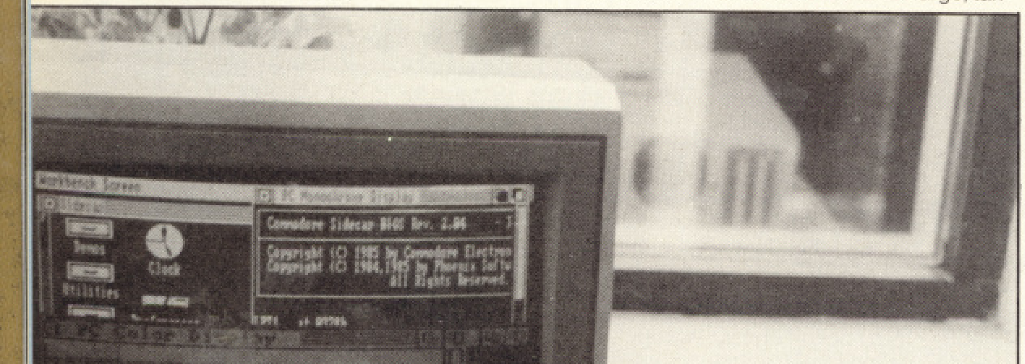
SIDECAR

EXCLUSIVE!

Sidecar is not a myth after all! What is Sidecar? It is possibly the most important device that the AMIGA could have to turn it into a true business machine. And the AMIGA makes any other comparable computer look out of date. I've just returned from the offices of Commodore Electronics Ltd where Gail Wellington, International Software Manager was not just content to provide a detailed, demonstration but also allowed CCI an opportunity for use the device for ourselves.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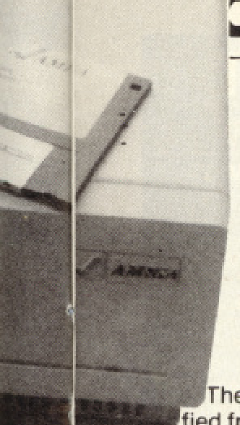
SIDECAR is the hardware device that allows the AMIGA *complete emulation of the IBM-PC*. SIDECAR, at present, is very limited in numbers and has not yet been released. We hear, however, there are now 1000 under technical and safety evaluation in the U.S. and by September it should make Europe in commerical numbers. SIDECAR was launched at the recent COMDEX Show in Atlanta, USA and reportedly received a very positive reaction from both retailers and potential end-users alike. No prices as yet but reliable sources indicate a USA retail price of substantially less than $1000 could that mean around the $500 mark. I certainly hope so, for that will bring it within the reach of everyone who is even considering a PC.

SIDECAR was developed by the Commodore-Amiga engineering team led by the Master Engineer himself Bill Kolb in collaboration with hardware engineers from Braunschweig, the site of Commodore's West German operation. the device itself is a hardware add-on which is attached to the expansion post of the side of the AMIGA, leaving existing ports at the rear of the AMIGA are unobscured. It is not large, taking up about 25 cm.sq. with a 5.25 inch drive at the front. The hinged lid reveals 3 *full-size* expansion slots inside along with a self-contained power supply for both the slots and drive. Examples of the thought behind the design include the placement of the AMIGA mouse ports in the front of the SIDECAR (the originals are masked by the SIDECAR) and just one power supply cable to connect the complete system up since the monitor and AMIGA power supply sockets are now connected by flying leads from the SIDECAR.

The unit contains an 8088 running at the standard IBM-PC clock speed of 4.77 MHz and differs from the TRANSFORMER which provides *software emulation* of the IBM-PC. Naturally TRANSFORMER is slower and more limited in scope and hence the impetus for a hardware assembly that would not sacrifice these two important parameters and provide *full compatibility and speed*. The expansion slots are *full-size* and following the segmented addressing approach used by Intel processors, RAM expansion cards in the slot may be partitioned — **part for the 8088** and the residue for the native 68000 in the AMIGA. Obviously the use of a daughter board would negate the need for a slot containing RAM unique to the 68000 although there is an overhead here — the maximum limit of RAM expansion of the AMIGA is reduced to 6.0 MB using the SIDECAR. It seems that the missing 2.0 MB are used as 'Checkpoint Charlie' by the two processors.

The full features of the SIDECAR are enumerated below, with full support of all IBM display modes. Special extensions to the system software supplied with the unit allow the user to create PC displays that emulate multi-tasking displays of the AMIGA.

Complete IBM-PC software compatibility
PC Alphanumeric MONO adapter emulation
PC Colour/Graphics adapter emulation (standard and enhanced)
Emulation of all types simultaneously on a single monitor
3 Full size expansion slots
256k RAM supplied as standard expandable up .to 640k on main board
Local uPD765 disk controller
Built-in half-height 5.25 inch 360k drive with connector for additional drive
Provision for optional 20 MB hard disk
Access to both AMIGA Parallel and RS-232 Serial ports
Internal timer, interrupt controller and DMA controller 16k BIOS ROM
128k dual port RAM for fast access to AMIGA
8087 co-processor socket
Provision to expand AMIGA RAM directly by a special connector on the SIDECAR.



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The system startup is slightly modified from that of a conventional AMIGA. While the AMIGA is booting-up the SIDECAR goes through it's own conventional PC routine of a memory parity check procedure and then waits for an interrupt from the 68000. On recipt of the interrupt a copy of the 68000 interface code is placed in the common 128k RAM area and the 8088 then continues with the bootstrap operation which finishes with the placement of the 8088 interface code is the shared buffer. The interrupt structure between each processor is shared, in the case of the 68000 this uses mainly the BR, BG and BGACK signals whilst the 8088 uses the DEN, DT/R and WR signals. The bus arbitration employed is sufficiently robust and stable enough to allow completely asynchronous operation of both processors and their associated systems since the function request is pipelined until a function acknowledgment is received.

Display emulation is done under the auspices of an AMIGA window. The emulation is 100% since the data is bought from the 8088 display RAM which eliminates the possibility of display failure brought about through the use of display tricks by applications software. The window on the AMIGA screen uses the menu structure of INTUITION to providea huge range of options. These options provide a much greater range of modification and control over the PC display, more so than those available to actual PC owners. For example, control extends to modification of the colours themselves or emulation of multitasking displays by opening additional windows into the video display and halting or freezing the information contained within these windows by switching to another window or back to the main window. Note that there is no loss of the standard test display of 80 characters by 25 lines of the IBM-PC through the use of an AMIGA window. The borders of the window and menu bar can be made to disappear completely if required. Provisioin is made for the display of a real-time clock from the 8088 mode by means of a small AMIGA window. Of particular benefit to *power users* is the ability to save display setups as system defaults which represents a considerable time saving when several applications are to be used in the course of a working session.

The interface between the 68000 of the AMIGA and the 8088 of SIDECAR is interrupt-driven from a generator according to pre-defined events within the system. It is also possible for either processor to use the hardware support facilities of either system viz. *the 8088 use AGNUS, DENIS or PAULA directly without the encumberance of the 68000.* This is a very novel and rich environment afforded to hardware or software engineers and opens up a huge potential market. Data communication between the two devices takes place via the 128k dual-ported RAM with the video portion of the 8088 being directly mapped on this RAM. Since this video mapping is transparent to the 8088, compatability to applications using either ROM BIOS or direct routines is enabled. Applications running on the AMIGA can utilise the data contained in the interface RAM for window creation emulating the PC display. The system software provided with SIDECAR allows for the emulation of both monochrome and colour graphics within standard AMIGA windows — simultaneously if necessary since different section of the interface RAM are used.

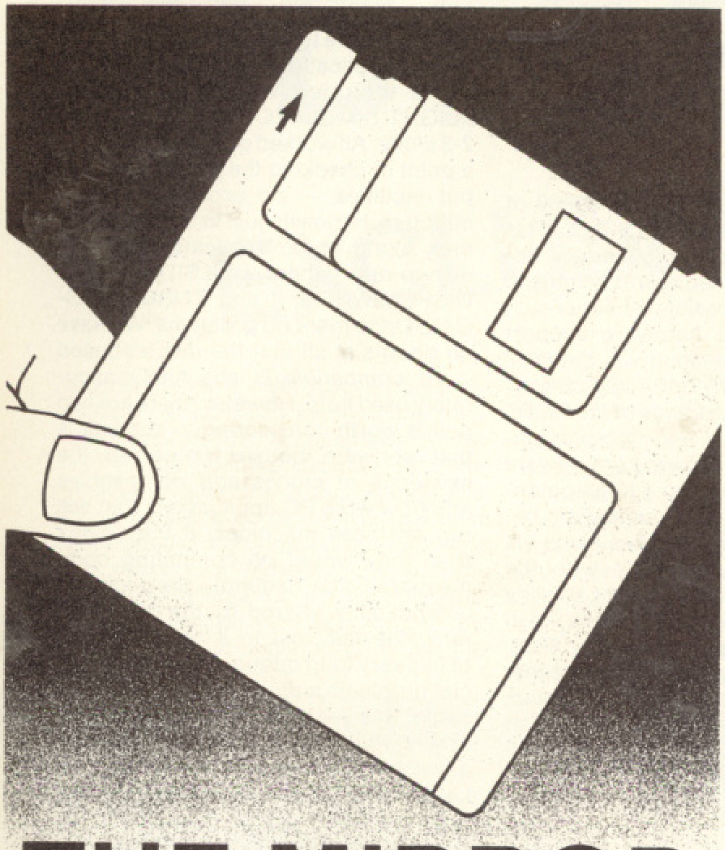
3.5 PC-DOS disks

Keyboard input is done through the AMIGA keyboard thus obviating the need for purchasing another keyboard. Access to the 8087 co-processor by the 68000 is feasible when fitted which also applies to any hardware the user may have fitted to the 8088 expansion board. Additional mass storage can be provided to the 68000 by means of a hard disk fitted in one of the 8088 expansion slots through partitioning hard disk DMA to either processor. An AMIGA 3.50 inch drive unit with a formatted capacity of 720k (PC-DOS format) may be connected to the SIDECAR through a special port at the rear and provides the user with a increase of 100% in storage capacity over the standard 5.25 inch 360k drive. This also provides the benefit of being able to use disks to the very latest media standard, namely the 3.50 inch PC-DOS disks. By employing the uPD 765 disk controller as used in the IBM-PC compatibility problems caused through disk copy-protection schemes are avoided. Since the expansion slots are full-size and completely compatible this provides the user with access the enormous range of third-party add-on cards.

We did have the opportunity to try out several applications supplied by CEL — these included WORDSTAR 2000, FLIGHT SIMULATOR and a LOTUS 1-2-3 clone. All worked perfectly, we made a point of checking the the printed output facilities — no problems in that direction. However, just to make sure we took along some applications of our own to run — these were SIDETRACK, DISPLAYWRITE II and TURBO PASCAL. Once more no problems. We have no doubts at all that the much abused word *compatible* is absolutely accurately used here. However, there are two points worth considering — the first is that software houses recognise the existence of clones and compatibles and now write PC applications that will run on these machines, if they didn't then they would be commiting commercial suicide. Secondly, the degree of compatibility offered by the SIDECAR ranks the unit close to, if not at the head of this very long queue. Given the financial problems suffered by the company earlier this year it is highly unlikely that assets would be, or could be wasted on developing non-starters. We do not believe SIDECAR to be remotely likely to be in that category.

SIDECAR offers Commodore through the medium of the AMIGA family yet another crack at the lucrative PC market. By a demonstration of hardware engineering skills of the highest order they have utilised the powerful platforms of both the 68000 and the AMIGA specialised circuits to produce a system of huge potential in graphics, audio and process control applications. MAC-CHARLIE may have pointed to an untapped market but failed to capitalise on this market by a combination of high price and limitations of the MACINTOSH itself, viz. no multitasking, poor display emulation and inadequate software compatibility. The benefits to an existing dweller in the PC workd are twofold — *they can use their software AND hardware add-ons.* The sandstorms of hype and novelty may have receded on the AMIGA now and the moment of decision is near. Is it a commercial runner or not? — does it offer any real benefits? — will it save me money? The personal computer market is driven by two factors only — cost and technical innovation. **The AMIGA and SIDECAR combine both factors to produce an entity that can and we predict will, crush its opposition and cement the position of the AMIGA as the leader in low cost, innovative business computers.** *Power Users* please queue here for the SIDECAR

In the next issue we will continue our report of this very exciting and important development and deal with the software aspects of SIDECAR.



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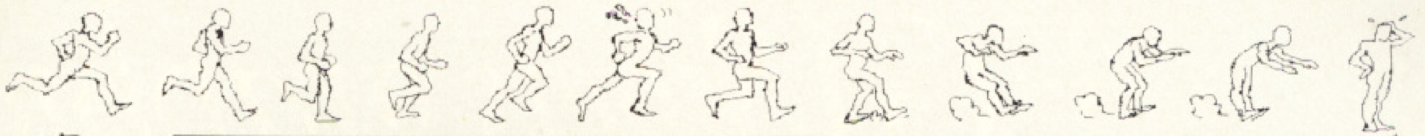

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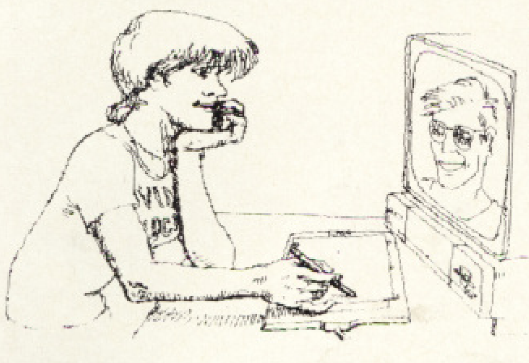

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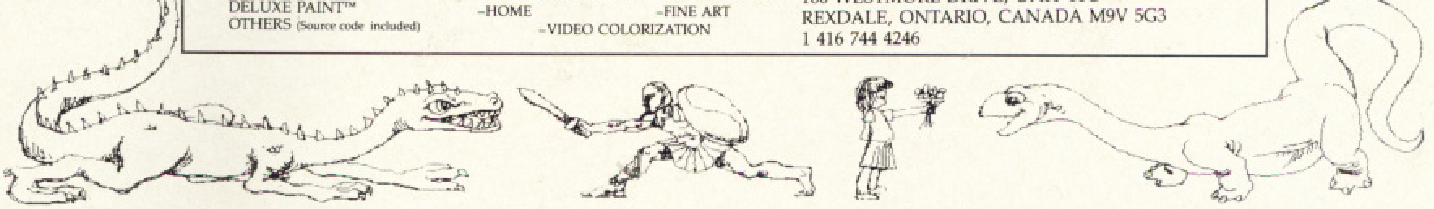

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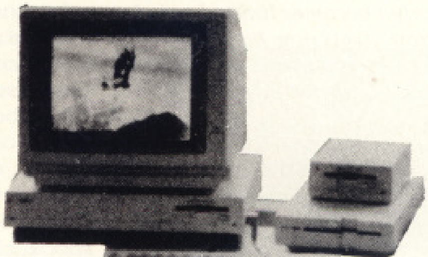

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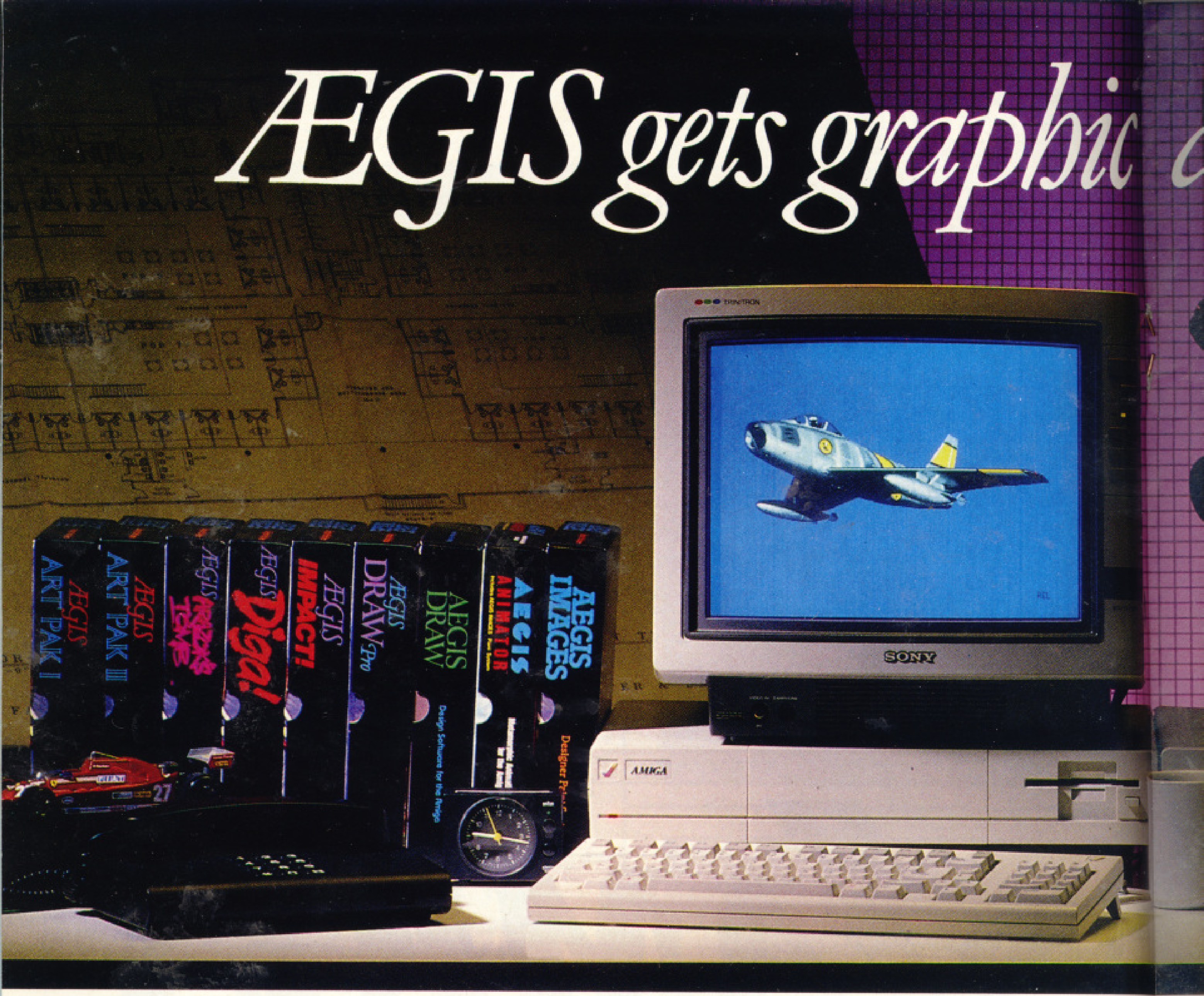

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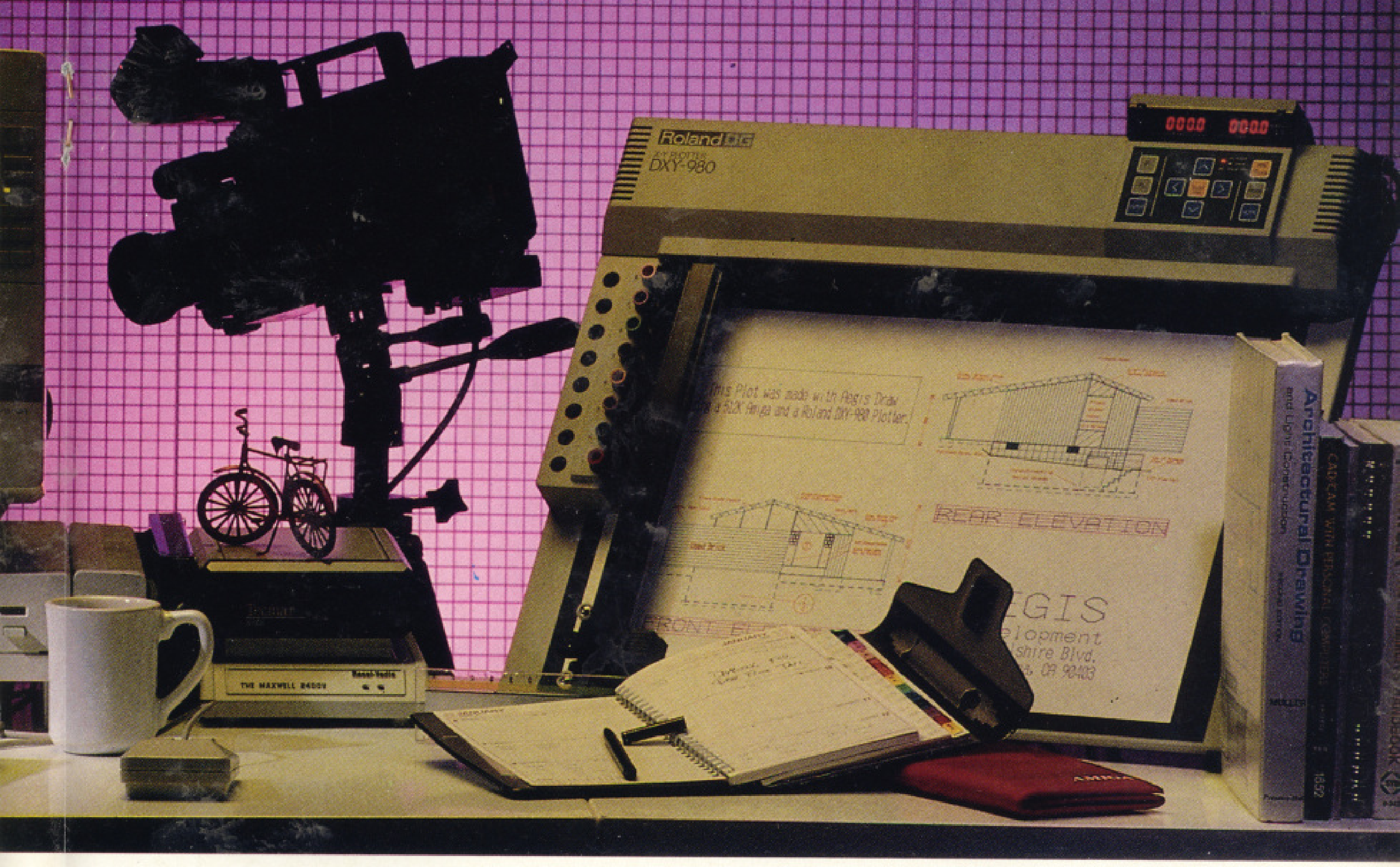
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Keyboard Cadet by Mindscape for the Amiga

"Oh no," you say, "how boring. A typical tutor. "Well, in most cases you'd be right but in this case of Keyboard Cadet from Mindscape (the people who wrote Racter) you'd most definitely be wrong.

It is difficult to write an interesting typing tutor. After all, what is exciting about trying to hit the right key and type in sentences in the shortest possible time? However, Mindscape have managed successfully to join a game concept with a typing tutor producing a program that is silly, fun, and very effective. Quite an achievement!

Keyboard Cadet features some neat graphics and sound effects built around a well designed and implemented package. In the training mode, you have to blast down the alpha-numeric characters that are flying towards you at varying velocities, depending on your speed setting. Hit the right key and 'phut!' goes the vicious letter, vanquished forever more. Once you've managed to destroy all the attacking characters, you face the mothership which you'll have to destroy pretty smartish by typing in the letters highlighted on the on-screen keyboard.

As your typing improves, you can increase the skill level to introduce new letters. The letter, or letters you are required to type in flash yellow, and any letters you mistype in your attempts to get the right key are shown in red. The on-screen keyboard also has two hands positioned over it, showing you how you ought to be positioning yours. As you type. so the hands type, eliminating the need to look down at the keyboard.

Once you've succeeded in your valiant efforts to save the galaxy from mass destruction, you can go on to typewriter mode, or word-processor mode. They are identical except that word-processing mode allows you to insert and delete characters, and word-wraps at the end of a line. In typewriter mode, you can't delete, and you have to press return at the end of each line. Obviously they hadn't heard of Tipex! Any incorrect words entered will be displayed in red, and at the end of a paragraph, you can't correct any wrongly spelt words.

This program really does help improve your typing. Unlike other typing programs, Keyboard Cadet is fun and so you don't see using ti as a chore, but rather as a way of passing the time, having a little fun, or maybe even to improve you typing skills! For pen-bound writers everywhere, a delight.

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We believe powerful software should be easy to use. **GRABBiT is one of the EASIEST programs you'll ever use!** Every **GRABBiT** operation is triggered by one of the "HotKeys", a set of easy-to-remember key sequences that only take minutes to learn. Each HotKey is generated simply by holding down the "**Control**" and "**Alt**" keys and pressing one of the designated letter keys. What could be easier?

You won't grow old waiting for **GRABBiT** to finish printing, either. When we say multi-tasking, we mean it. **GRABBiT** has **a unique TPM (Task Priority Monitor) module** which makes sure your other software can still run even while **GRABBiT** is printing. The TPM module constantly tracks **GRABBiT's** printing priority, making sure it is neither too high nor too low, **but always just right! GRABBiT** adds a new dimension to the AMIGA's multi-tasking capability.

GRABBiT supports **dozens of different printers** because it uses the standard Amiga device drivers. Any printer you can choose in "Preferences" is **automatically** supported by **GRABBiT**. You'll get the most from color printers too, because **GRABBiT** supports full-color printing. In fact, we have seen amazing color printouts produced by **GRABBiT** on the Oki-Mate 20, a color printer costing less than $200.00.

Of course, **GRABBiT's** abilities are not limited **merely** to printing; **GRABBiT** is equally adept at **saving screen images to disk** – yes, even HAM screens! All **GRABBiT** disk files are saved in the popular **IFF format**, the emerging graphics standard for AMIGA. You can capture any screen to disk for slide-show presentations or later enhancement with any popular AMIGA graphics editor like AEGIS Images or Deluxe Paint. We even include a specially modified PD utility called "SEE", which allows you to view IFF image files quickly and easily. **GRABBiT's** disk operations are **lightning fast** because **GRABBiT** is written in a hybrid of highly optimized C and 68000 Assembler.

Once you start using **GRABBiT you'll want it on every disk**. You can easily install **GRABBiT** in your system startup-sequence, so it will **always be there when you need it**. With all its features this would be a great package at any price. But we think you'll agree with us that **GRABBiT's** most outstanding feature is **VALUE!** You get all the power of this sizzling new software for an unbelievably low

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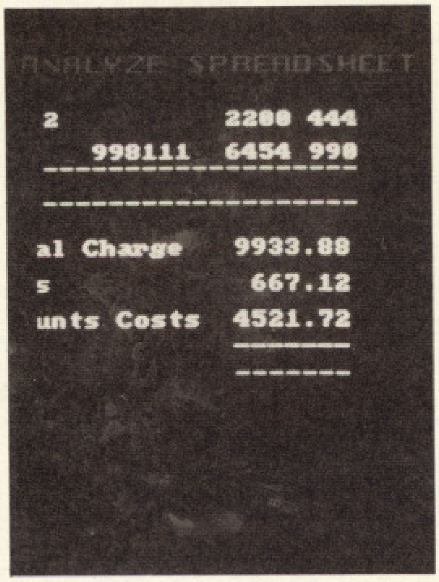
ANALYZE!

AMIGA Spreadsheet



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ANALYZE! is supplied in the shape of a single program disk and a comprehensive manual. The manual was well written, contained an index and avoided the extremes of too little or too much. The program disk I am happy to report is not protected. Regular readers will know my personal views on copy protection, so I was able to produce a backup disk immediately. Installation was also painless thanks to the overall ease of use of the AMIGA and it was not very long before something productive was happening on my machine.

When using a 512k machine you may have *two ANALYZE! worksheets in memory simultaneously,* since ANALYSE! allows you to partition your available memory. This is all very nice for those users who can keep track of what is where on their sheets and for most users two seems to be a sensible limit. For the benefit of the real *power users* a sheet can be sized up to 200k, which is an extremely large spreadsheet indeed.

The front-end of ANALYZE! uses the standard AMIGA INTUITION window structure with drop-down menus along with window move and resize. There were no clever tricks or snazzy gadgetry employed, probably in keeping with the solid and respectable requirements of the targetted audience.

The use of the mouse is entirely optional, but it does speed things up when moving around the screen. This is another demonstration of the sensible approach by the program authors of ANALYZE! — there are users out there who just cannot come to terms with a mouse and much prefer the cursor keys.

Regular spreadsheet users will find almost all of their demands catered for. Relative and absolute cut, copy and paste of data and formulae, labelled ranges, headers and footers, localised recalculations using labels, all the necessaries are here providing the food and drink to those users who like to work their machine and spreadsheet software really hard.

Price

It is important to realise that the price of obtaining these spreadsheet functions is considerably less than the likes of LOTUS, SUPERCALC, etc., in addition to which ANALYZE! is considerably easier to use and learn. The functions cover the old standards of spreadsheets such as MIN, MAX, SUM AVG, etc., before moving into dedicated financial and statistical aspects such as present and future values, payments and variance.

One of the more powerful and unusual features of a spreadsheet at this price level being the table lookup functions. I also liked the manner in which time was stored as a serial integer number allowing some useful manipulations to be performed in this direction. Even better was the delight of discovering that this function handles British date style, that is DAY, MONTH, YEAR. Couple these with the purely programming functions in addition to the ability to define orders of recalculation and you have the makings of a very efficient cost-effective tool.

User-defined functions or macros, graphics, three dimensional sheets and sideways printing are not present yet. Note my use of the word *'yet'* since the producer of ANALYZE! has a clearly stated policy of product upgrades to registered purchasers. In fact I felt that the strength of ANALYZE! lay in its tangible solidness as a basis for yet more powerful versions. Considering the newness of the hardware and thus the programmers unfamiliarity with the full range of AMIGA tweeks, the version I ran (v1.2) is a marvel compared to the spreadsheets I have operated before in the 8-bit world. I am happy to buy on the basis that I know the product will be upgraded to use the unique facilities of the AMIGA.

Micro-Systems Software operates a USA-based bulletin board in support of all of their products which is open to those registered users who can afford the phone charges.

Printers

The often ignored sharp end of most application software is the output in terms of printers and files. Dealing with printer support first, ANALYZE! offers two methods of linking to your printer. The first is through the WORKBENCH of the AMIGA using the PREFERENCES tool.

PREFERENCES includes direct support for Centronics or RS-232 interfaced dot-matrix, daisywheel and laser printers. Alternatively, where you do have a printer that is not on PREFERENCES you can by-pass this and send direct commands to the printer. Readers who have older Commodore IEEE printers would be well advised to hold on to them since all is not lost. There will be launched quite soon I hear, a direct connect interface for them.

The printer output will provide headers and footers as well as formulas and borders. The control over the printer extends to line feeds/carriage returns, cell format and margin control, very useful in those tricky situations we have all experienced at some time over printed output from spreadsheets.

The other output that can be produced from ANALYZE! is for disk files. This allows you to save the sheet as an ASCII data file. Image conscious users can then 'massage' the sheet in a word processor to give italics, underlines, etc. The other use for this type of data storage is to provide a route to transmit spreadsheets between the AMIGA and other machines either through direct connection or modem using RS-232. A further example of the inherent long-term usefulness built into the product.

ANALYZE! in its present form makes no claim to being the definitive AMIGA spreadsheet. However, the strength of ANALYZE! lies beneath the surface in terms of its operational speed and overall potential. It is a solid piece (I couldn't get it to crash) and given that the manufacturer will be maintaining the product in terms of improved facilities via upgrades the future of ANALYZE! is very good. It is this last factor that persuades me to purchase ANALYZE! now as opposed to the useful *'something better will be out next week/year'* syndrome.

Contact: *Micro-Systems Software, 4301-18 Oak Circle, Boca Raton, FL 33431, USA. Tel: 305.391.5077.*

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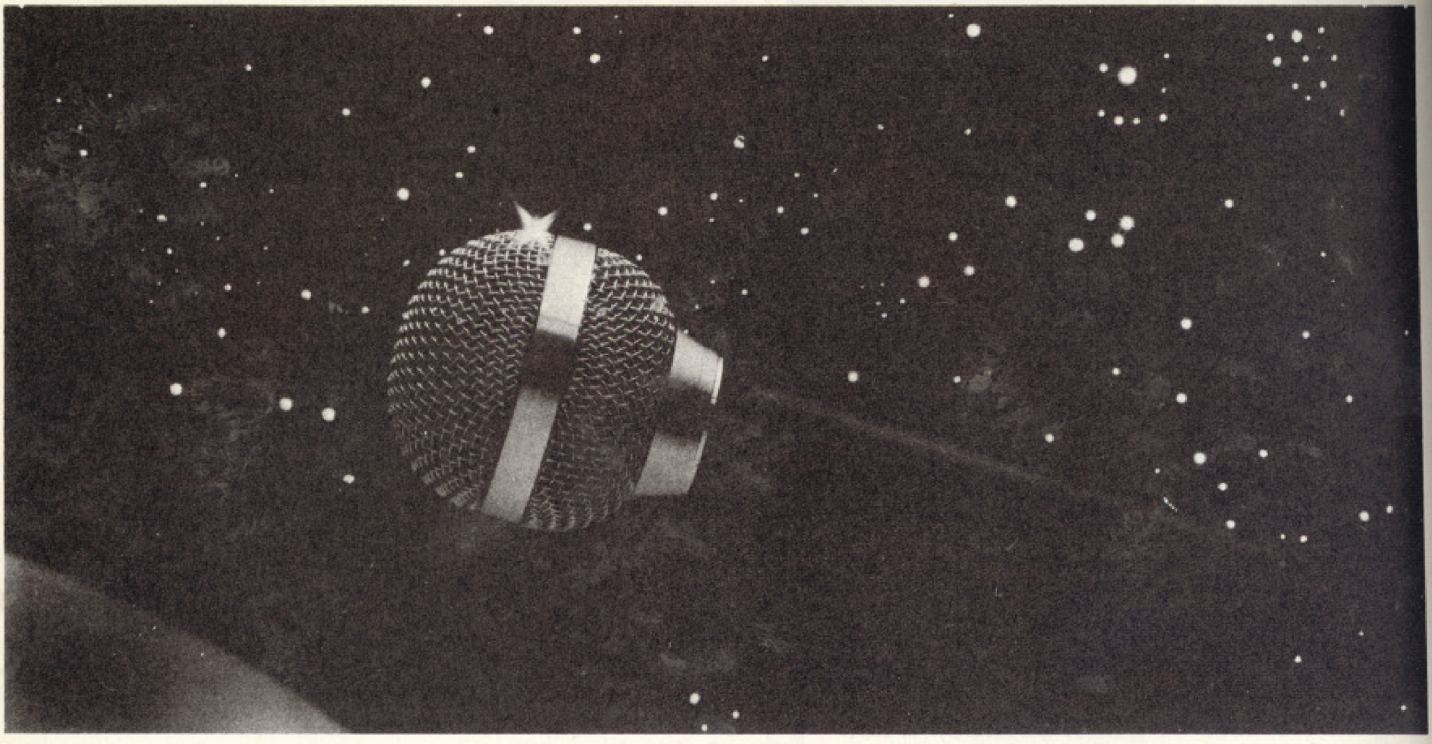

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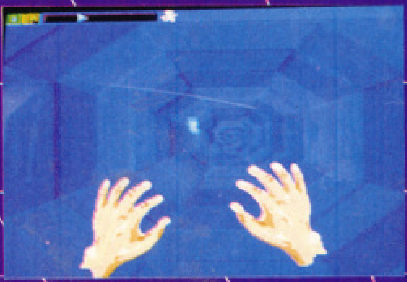
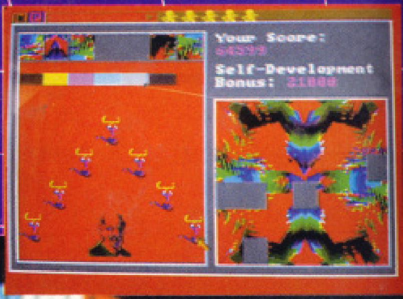
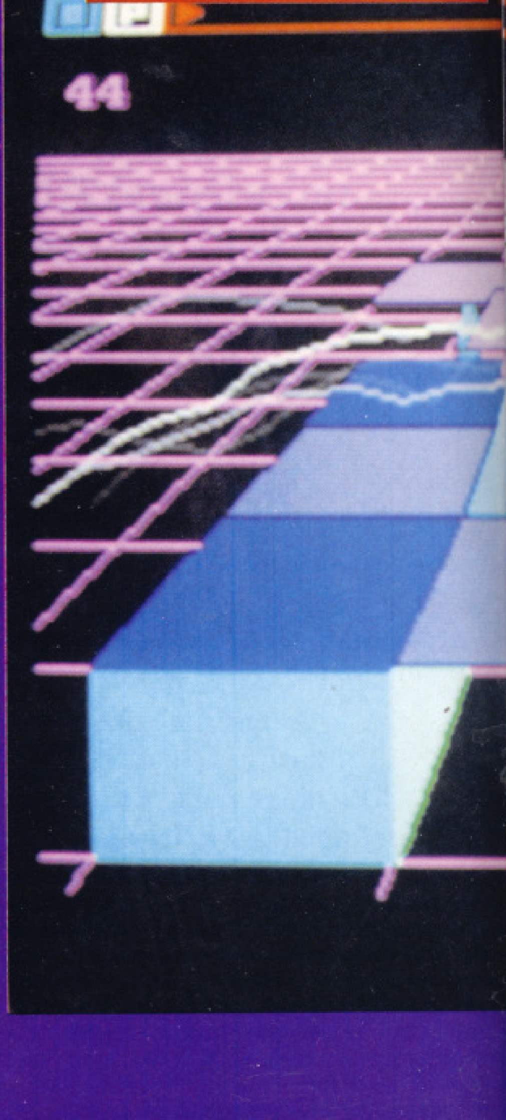






MindWalker, formerly known as WyndWalker whilst under development, has the privilege of being the only game that Commodore will be marketing for the Amiga. What is it that makes this game so special?

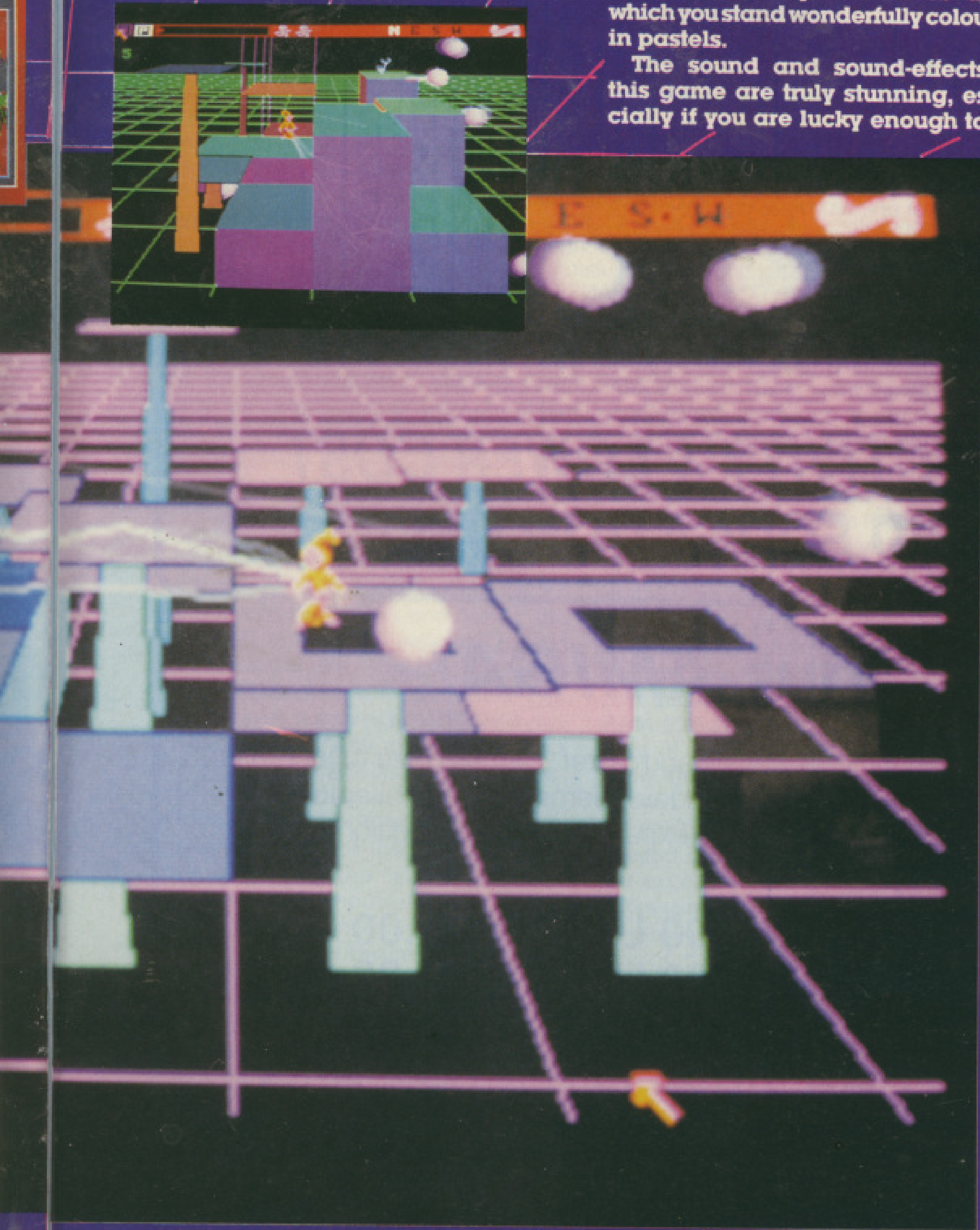
When it was still under development, many people obtained, by various, mostly illegal means, unfinished versions of the game. Of course, as these were not 'official' copies, the 'players' didn't have a clue how to play the game. So for months WyndWalker circulated the developers' circle, with people saying how incredible it was, how it was spectacular, possibly the best graphics ever, but what the hell were the rules! Recently I had a meeting with John Collins one of the elite of the Commodore world hence a possessor of much arcane knowledge. He very kindly explained to me what the game was, and how to play it. I must say that the mystique that surrounded the game before I knew what it was all about still surrounds it now. When I got home, I promptly sat down, booted up MindWalker, and played it through to about 5 am, when I eventually, I say with not a little pride finished it. Not many games can hold my attention for so long, and neither do they have the addictive power that MindWalker possess.

The name very aptly describes that game. Stuck in a mental hospital, you are trying to regain your sanity through your dreams, walking the realms of your mind in its deluded insanity; trying to link up paths of coherent thought; a situation not unlike working on a magazine! To establish a link, you must journey from a crystal to your goal, displayed on the map screen as a flashing square; linking them with a path as you travel. This is where the game starts to get complicated. In your mind, you can take the form of one of several different characters ranging from human to wizard. Your mind is also subdivided into many areas of random size and shape. Each one of these areas is 'biased' towards one of the character types, and to make a path through a purple area for example, you must be a wizard, whose character colour code is purple. To change your character you need to stand under a pyramid where you will be transformed into each type in turn. When you finally turn into your desired form, simply move out from under the pyramid.

If you are unfortunate enough to have to cross another character's boundary, then your path will be halted. You will have to find the nearest pyramid, transform yourself into the required type, and return to where you left off.

To see your current position, you can call up a map screen. This will, on command, show the location of crystals, pyramids, goals, and which areas may be pathed across by which characters. The path you have so far succeeded in creating is displayed as a yellow line.

e now.



There has to be a catch to all this doesn't there? I mean, this sounds too easy! Well, there is, and in later levels the nasties inhabiting your mind operate at incredible speeds making completion very very difficult. Stay too long in one place, and you'll be zapped by a beam of death. Actually, its worth getting killed a few times just to see the display of the skull in its multitude of different colours being drawn.

I can't recall another game that uses colour to such good effect as MindWalker does. The spheres which attack you are beautifully shaded (don't watch them too long!) and the barren landscape of cubes upon which you stand wonderfully coloured in pastels.

The sound and sound-effects in this game are truly stunning, especially if you are lucky enough to be able to shove the output through a good amplifier, and then into a really decent pair of headphones. If you are using a set of those mini-speakers that are widely connected to the AMIGA, then beware! I blew mine up with this game! The raw, deep bass sound when you get killed is so strong, especially with a lot of bass if you're going through an amp, that the speakers may just go phut! Just don't have the volume up to high...

There are also three other screens in the game. The second has you plummeting down a tube, hand spread out in front of you, trying to manouver yourself into the entrance of one of the green tubes that flash past you. The third is very ordinary, and could almost be done on a 64.

The fourth is quite interesting. On the bottom right you have a 7 x 7 area. At the top left you have seven pieces of 49 (7x7) piece moving puzzle. Each time you reach this screen, you've got to place each one of these pieces in the correct position, and you have to get there seven times to complete the game! For the first three times, you'll probably need a little assistance. If you can't work out the proper position of a piece, you can get the program to place it for you. However, by asking for help, you lose a 1000 points from your bonus.

This truly is one wierd game. It is incredibly hard to stop playing, because although initially it seems simple, it is in fact highly complex and requires a lot of strategy. I haven't been told the UK price yet, and I wouldn't like to hazard a guess, but whatever it is, buy this game. This product lives up to Electronic Art's desire for "Computer programs that are works of art", even though it wasn't written by them. It really is state-of-the-art in computer games.

By the way, the first time I managed to complete the game, I scored a self development bonus, from which points are deducted for help, of 32,000 points. See what you can do, and write in with your scores (no calls, please!)

At the end of MindWalker, you have, if you complete the game, regained your sanity. That may be true in games terms but what you really will have done is visited a new dimension in home entertainment; enjoyed a state of the art experience.

Julian Rosen

MindWalker — A State of the Art Experience

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RAM BOARD *by* Comspec

Surely not? . . . the AMIGA has 512K of RAM — what is the point of buying yet more RAM I hear you cry?. To understand the answer to this question demandsa little knowledge of the architecture of the AMIGA. There are several *types* of RAM inside the AMIGA, these are:

- CHIP
- FAST
- WRITE-PROTECT

Write-Protect RAM is a 256k area in which the operating system software is placed after loading in from the 'KICKSTART' disk. It is then locked away from the user by means of sophisticated hardware switching to prevent unauthorised tampering and the consequential loss of system security necessary in a multi-tasking environment. In effect this RAM becomes ROM and we need no longer be concerned with this RAM any further in the context of this review.

Chip RAM is the lower 512k of the system address range and forms the RAM that is supplied installed on the machine as bought in the UK. The 68000 in the AMIGA can address 16.0MBytes which leaves a potential of 15.5MBytes for expansion. (Note that this is direct addressing by the 68000 — this processor does not use segmented addressing as found in the Intel 8086 family.) Unfortunately, this is not the case since we have to allow for the operating system software, and input/output circuits which are always memory-mapped on a 68000 system. The maximum expansion of RAM that Commodore-AMIGA recommend is 8.0MBytes — the principle reason for this limit relates more to power in the system. The special circuits within the AMIGA, namely AGNUS, DENISE and PAULA can only access this lower 512k RAM which in effect forms the *video RAM*.

Fast RAM forms the 8.0MByte expansion and receives it's name from a property of the special circuits. This property ensures that under certain conditions the special circuits can hold the 68000 processor off the address bus whilst they continue their task. For example, the much vaunted Blitter can finish off a screen area fill at the expense of the 68000 hence one of the reasons for the very fast graphic abilities of the AMIGA. Obviously the system software needs a high degree of robustness and intelligence to arrive at and maintain such arbitration between the hardware and the system busses. The 68000 cannot be pushed off the address bus on this RAM simply because there is nothing there to do it. This makes any access to this RAM potentially faster than *chip RAM* therefore the name *fast RAM* was coined.

The **COMSPEC RAM EXPANSION** is supplied in the form of a well constructed pcb containing 2.0MBytes of RAM. When fitted to a UK-specification AMIGA the total system RAM becomes 2.62MBytes. The pcb is enclosed in a substantial metal case painted in a matching colour to the system box. The unit's overall dimensions are approximately 9 by 4 by 2 inches thus it does not represent a visual threat and fits in agreeably with the AMIGA environment. Installation takes less than a minute — consisting of removing the expansion port cover on the right of the system box, refitting this cover to the expansion port that is duplicated on the side of the RAM EXPANSION box and then plugging in the RAM EXPANSION to the main unit. I was both pleased and releved to note that I had not lost the expansion port. Obviously the only 'skill' needed is care when fitting the unit to the expansion port. **I was particularly impressed with the high standard of workmanship in this unit.** I happen to be one of the rare animals — that is a reviewer who actually takes the lid off the hardware under review. My impression of quality was reinforced by the manufacturer's use of rubber buffers to space the unit from the system box and more importantly use buffers on the underside to support the unit properly rather than rely on the main pcb of the AMIGA to perform this function, unlike some assemblies I have seen recently.

Further RAM expansion is simply plugged into the side of the first unit although it is advisable to provide for additional power beyond the second unit — 2MByte units on NMOS circuitry are hungry. No documentation was supplied with the unit other than the warranty card. The documentation is supplied on the system disk which contains a simple file describing the installation of an additional program into the C (command) directory and amending the startup-sequence file (AUTOEXE.BAT in MS-DOS terminology) on the user's Workbench disk. Once this had been done the system fired up and proceeds to test the RAM and notify the user that all is well. This process takes less than 10 seconds. The product uses the *'Auto-Config'* architecture of the AMIGA. This means that unlike IBM-PC and its clones, the fitment of additional peripherals to the expansion port does not mean the user having to go inside the machine and mess around setting DIP switches. *Auto-Config* recognises exactly what is on the external bus and takes care of it in terms of the location of the peripheral within the processor address range.

At first, I could not detect any difference on my Workbench display to indicate the presence of the additional RAM. Then looking at the menu bar with the rolling count of free memory I noticed the figure 2499208 rather than the usual 401920. I must confess that at first I misread this thinking that I had lost RAM until I realised that an additional digit was present — oh well, it has been an extremely hot July! I then proceeded to the AmigaDOS level to start my exploration of the uses of the vast increase in capacity.

At the DOS level the main use tended to be as a RAM disk since AmigaDOS directly supports this facility. This is of immediate and substantial benefit to software development since it allows the user to copy the compiler AND system disks into RAM. There is even sufficient left over from this exercise for very nearly a further FULL disk to be loaded in. The advantage given here is a *considerable reduction on compile cycles* even using the leisurely Lattice C compiler since the need for disk access is negated. Readers who are unfamiliar with AmigaDOS may note that it supports a full hierarchial directory structure and is closer to UNIX than MS-DOS in facilities and available commands.

cont . . . .

cont ....

For end-users the benefits of additional RAM becomes immediate after copying the Workbench or system disk into it. This allows the use of the internal drive (df0:) for other purposes — of particular value when so many applications make heavy use of the routines on the Workbench disk. Not least is the enormous increase in overall system operating speed since everything is now held in memory, although it has to be said that when used correctly (a note for some reviewers who fail to comprehend them) the AMIGA disk drives are both fast and reliable. You may now keep all of your program and data files in *fast RAM* rather than video or *chip RAM.* This has the benefit of leaving the latter completely at the disposal of video or audio data for manipulation by the special circuits. Therefore tasks run faster and have a greater amount of memory available to them. Of particular interest with this effect is the forthcoming AMIGA SUPERBASE which makes great use of the machine's memory to hold as much as possible of the user's immediate data requirements such as disk directories and key index parameters.

I was greatly impressed with the COMSPEC product and really begin to wonder what life was like on a mere half megabyte of memory! It has certainly paid for itself in terms of the increase possible in my personal productivity. The AMIGA is not short of RAM in the conventional sense of the word — certain applications such as animation will, however, run it close to the limit. On the other hand RAM represents the consciousness of the machine and rather like a car engine there is no direct substitute for capacity.

I am more than happy to recommend this product — additional RAM for the AMIGA should be the number one priority for any buyer whether software developer or end-user. This not only turns a powerful machine into a force to be reckoned with, but allows the true *power-user* full reign. Through personal choice and now experience I'm glad that I made this decision rather than go for the hard disk units. Admittedly they are next on the shopping list after the open-heart surgery of replacing the 68000 with a 68010 processor, but that's another story!

2MB RAM Expansion Supplier:-
Comspec Communications Inc 153 Bridgeland Avenue. Unit 5 Toronto Ontario M6A 2Y6 CANADA tel 416.787.0617

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Precision Software Ltd. 6 Park Terrace Worcester Park SURREY KT4-7JZ. tel 01.330.7166

Books

PRESENTING THE AMIGA

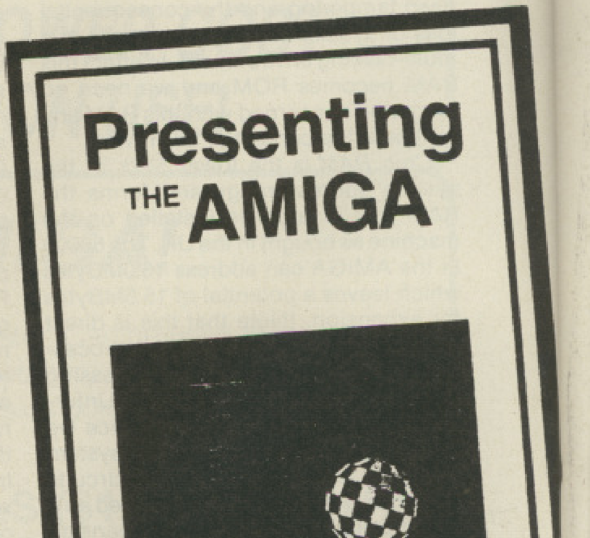
CHRISTIAN SPANIK

FIRST PUBLISHING LTD
£9.95

It had arrived! At last my Amiga had been delivered. Boxes were flying everywhere, there were bits of polystyrene packing all over the floor. Even the wife was excited. I'd unpacked it within seconds. Now what? Well, luckily for me I had received a copy of "Presenting the Amiga" only a couple of days before my new 'toy' had arrived. The author, Christian Spanik, had obviously gone through the same 'got to get it going' phase I was going through and was therefore able to give some advice on what problems I was likely to encounter. The book falls into five main parts. The first part is the 'How to unpack, plug it all together and switch on' section. The second section is probably one of the most important parts of the book. It explains the AMIGA/WIMP concept. This it achieves with a 'Now press button B' type talk through. This type of approach can quite often lead to a long, drawn out session but Christian's light-hearted manner (not too American) proved quite entertaining. Section three covers Basic. It is not intended as a complete course in Basic but as a quick guide round to show you how to get at some of those lovely frills and spills. Section four - AmigaDOS. If I buy a computer with a disc drive, I expect to be given the information I need to operate it. This is one place where I feel Commodore has let the side down again. They provide little, if any, information on AmigaDOS (Amiga Disc Operating System). I asked Commodore why they did not include a AmigaDOS manual only to be told that the Amiga is a WIMP environment machine, Goodbye. "Presenting the Amiga", however, does give you a peek at the DOS and probably saved me from jumping off the roof. The final section comprises of the appendices or "Things you don't keep in your head" to quote Christian.

All things considered, this is an ideal starter book for the Amiga. It is light-hearted and easy to read. It has the feel of a book written by someone who has actually experienced the very same problems and pitfalls as I have. However, if anything lets the book down it is the index. I would have much preferred to have seen the more regular type as opposed to Christian's KEYWORD index. That comprises of about 100 keywords which then refer to hard to locate chapters. Still, nobody's perfect (the editor excluded).

Ian Bennett

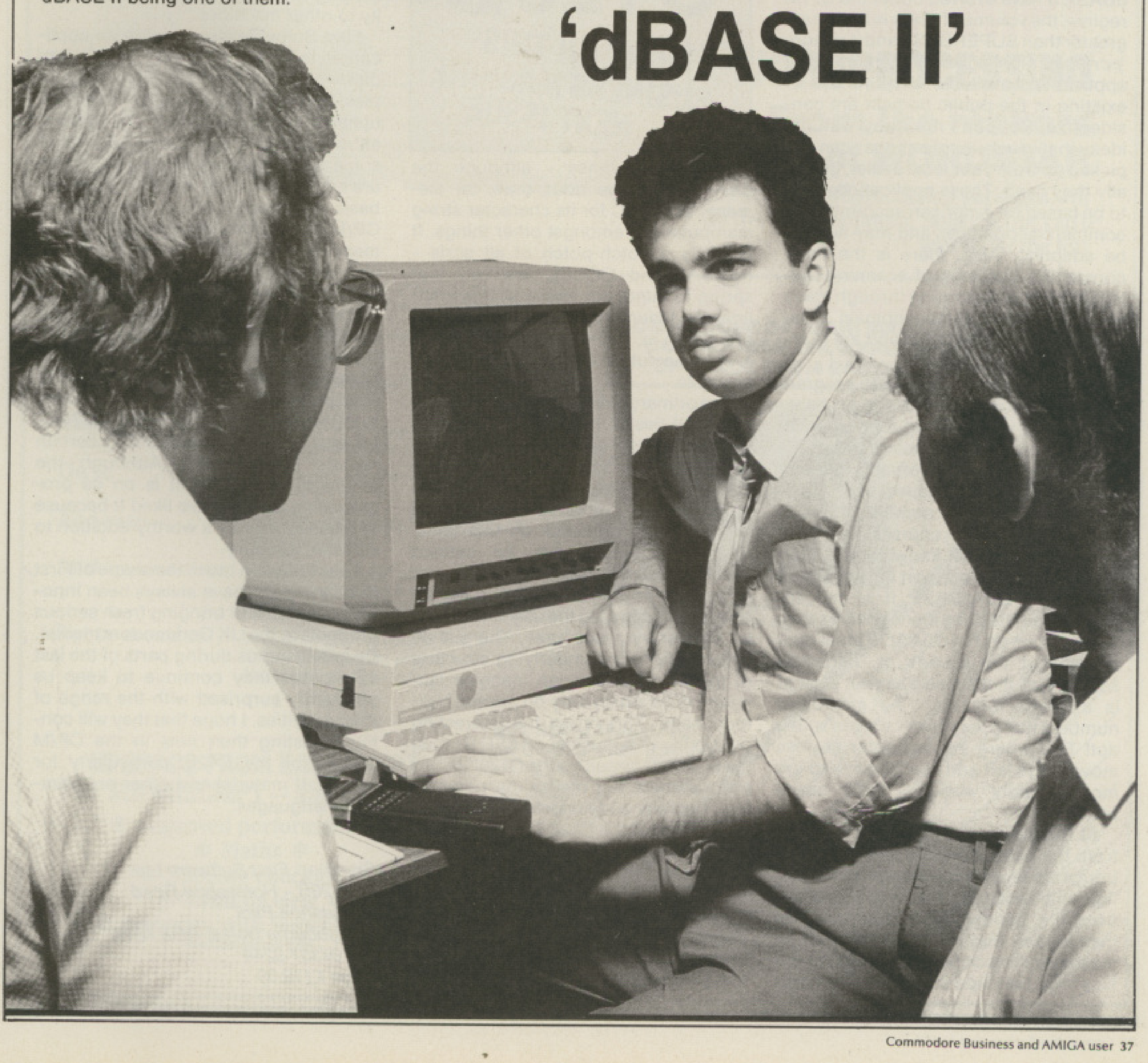


Commodore 128D 'dBASE II'

At long last I've managed to get my hands on dBASE II for my C128D. After word processing I have always retained a keen interest in database products and been a strong advocate of SUPERBASE, so why dBASE II? Well, SUPERBASE is almost certainly the leader in the Commodore world for databases. However, SUPERBASE is based on the 6502 processor and this limits its usefulness in two ways. First, 6502 machines never achieved a 'standard' operating system which reduced the number of machines that SUPERBASE could run on. Secondly and in complete contrast, the Z80 and its prodecessors, the 8080/8085 processors, have an established operating system in the shape of CP/M. The number of different machines that can run CP/M means a much wider user base and given the current revival of CP/M some of the 'golden oldies' of the CP/M era are being dusted down and re-issued; the venerable dBASE II being one of them.

A lot of people who are not personal computer users or owners tend to assume that computers are only good for numeric applications. They fail to appreciate the ability of computers to serve as organisers of data and this data does not have be numerically derived. Every single human activity involves a need for organisation - we all have those scraps of papers, numerous pens and pencils, paper clips, cuttings and those sticky pieces of yellow notepaper strewn around our home and workplace. A database management system (DBMS) aids the organisation of our business affairs and personal life.

There are database programs that are simply based on a record card-index structure - these are termed flat file systems. They are restricted in the form and number of entries that can be made and how the entry contents i.e. your data can be manipulated. More powerful database programs are not restricted - the power is a direct function of the lack of such restrictions - and the form of data entry can be designed by the user. Data is entered into *fields* or data parameters, *fields* collectively form a *record* and a number of *records* is termed a *file*. A system of *files* forms a part of a *database* and a large database can mean many *files* being held in it. Once the data has been entered, it can then be manipulated in any number of ways such as using the function of time and dates, direct comparisons or mathematical manipulation, numerical or alphabetic sorting and indexing. The ultimate database programs allow the data in a *field,*



record, file or *database* to be 'related' in the above ways to data held in other databases running under the same software. These are termed *relational databases.*

dBASE II is a *relational database,* unlike SUPERBASE which has a limited form of this function. But that raises the questions of why buy dBASE II rather than SUPERBASE? The answer lies in the three potential types of purchaser. The first type is likely to have a SUPERBASE system already installed and be a knowledgeable user who has amassed a large collection of data or alternatively enjoys programming. The second type is the *'solution-required'* user who needs a specific application to fit in with an intended area of operation, generally a commercial application such as a mailing list. The third type may be using dBASE II at work or on aother make of machine and wishes to dBASE II data disks in the C128 or C128D. Because dBASE II have evolved under the CP/M regime, the volume of users is that much greater than SUPERBASE and it is more *'portable'.* Consequently the number of applications available for purchase or existing in the public domain are considerable. But don't run away with the idea that such applications can be picked up from your local dealer, generally they can't. These applications tend to be based on American accounting or commercial practices and may need to be adapting. Also, there is the time-consuming business of scanning bulletin boards or searching through many pages of CP/M public domain catalogues, deciphering what you are likely to need.

The other option open is to program dBASE II yourself and this is probably the reason why the product is worth buying if you are an existing SUPERBASE user. There is a vertiable industry revolving around this aspect of dBASE II with a considerable number of books available, training courses and just general weight of knowledge about. There has to be a support infrastructure of sorts since dBASE II is not for beginners - the price alone ensures that.

The *'front-end'* of dBASE II must rank it amongst the leaders of unfriendly software, all that appears as your prompt is a single fullstop - no menu, no numbers just a very blank screen with a dot! This where the computer novices move stage left and scuttle back to the more friendly world of 6502 based software.

At this point, having sorted the men from the boys, pressing the HELP key brings up an extensive selection of online help facilities. You quickly realise from the ponderous manual and the help screen that this product is pretty extensive its facilities. For example the files may be made in a variety of types for processing under CP/M or other applications such wordprocessors and spreadsheets. dBASE II has developed considerably in this direction and it appears unlikely that the restrictions that Commodore DOS imposes over sequential, relative and program file interchanges affects CP/M.

Defining the record structure in dBASE II is very structured and easy once you have come to terms with the lack of full screen editing - this is CP/M after all! The record screens may be customised using the limited range of graphic characters available to the C128 or C128D running on CP/M. It is the programming language of dBASE II that makes this product so effective in many applications. This language does not use the platform of BASIC to work from because BASIC is regarded as an optional extra on CP/M machines - although the dBASE language does draw on elements of BASIC for its character string manipulations amongst other things. It is really a hotch-potch of all sorts - PASCAL and COBOL are two that spring to mind, but above all it is intelligeable. I found no difficulty at all at just ploughing in, particularly since there is a very useful program debug facility available.

C128D
MORE ON THIS BUSINESS MACHINE NEXT ISSUE

The primary strength of programming dBASE II lies in the range of functions available. They are comprehensive to say the least. The facilities for data indexing is exhaustive and it seems unlikely that a good programmer is going to come unstuck on this topic. Command macros may be defined which cut down considerably the amount of processing time whilst using the *set* commands can save the user lots of time on data entry procedures. There is an entry point to the underlying structure of the machine through machine language calls which may be passed bidirectionally. This raises the interesting possibility of a musical dBASE II using the 6581 SID circuit on the C128! Skilled programmers will realise the potential that machine code interfacing offers in the context of the C128 itself, a particularly innovative vehicle for machine code work.

The manual supplied with dBASE II is comprehensive and runs to over 275 pages. Note that it is the full-blown manual as published by Ashton-Tate, the progenators of dBASE II and not some watered-down effort. An additional page serves to cover any idiosyncracies of the C128, C128D and the various Commodore drives. First Software Ltd, the suppliers of dBASE II are at pains to point out that the 1541 is not an ideal vehicle for this product - it is slow and limited in storage capacity. Indeed if you were going to use the portability aspects of the product then the 1571 drive represents the wisest choice. This will allow the reading in of dBASE II files from elsewhere, unfortunately I've been waiting for some time for Commodore to provide me with the DR CP/M Utilities Disk and the enhanced version of CP/M PLUS (the 8th December 1985 version) which allows reading and writing of MFM disk formats and modem facilities. If you application does run to large volumes then the BRAINBOXES IEEE interface operates with CP/M on the C128 thus allowing you to access such drives as the 4040, 8250 or SFD1001, although at the expense of disk portability to other machines.

First Software also provide an application template disk with the system disk with plenty of programming examples. There are also a couple of dBASE II utilities for sorting and file editing although the manual makes mention of some further utilities. Presumably these are missing because of disk capacity or basic incompatibility of the C128 - CP/M does not always fit exactly on any machine. A technical support scheme is also available for additional cost. The offer of a reduced price on one of First Publishing's book (a sister company) on dBASE II is certainly worth taking.

In summary dBASE II is well worth considering if you are a *power-user* or need portability. Maybe not for beginners to DBMS although I didn't find it as fearful as it has been made out in certain reports I have read. Although the emphasis on dBASE II is on its programming abilities, we liked it because of these facilities - a worthy addition to software armoury.

First Software Ltd in the shape of First Publishing Ltd have always been innovators in terms of bringing fresh serious products to the UK Commodore market. Despite a hiatus during parts of the last 12 months they continue to keep us pleasantly surprised with the range of their activities. I hope that they will continue casting their nets in the CP/M waters for the C128, particularly for dBASE II material and other programming languages.

Supplier: *First Software Ltd.*
Unit 20B - Horseshoe Road
Horseshoe Park
Pangbourne Berks. RG8 7SW.
Tel 07357 5244
Price *£119.00*

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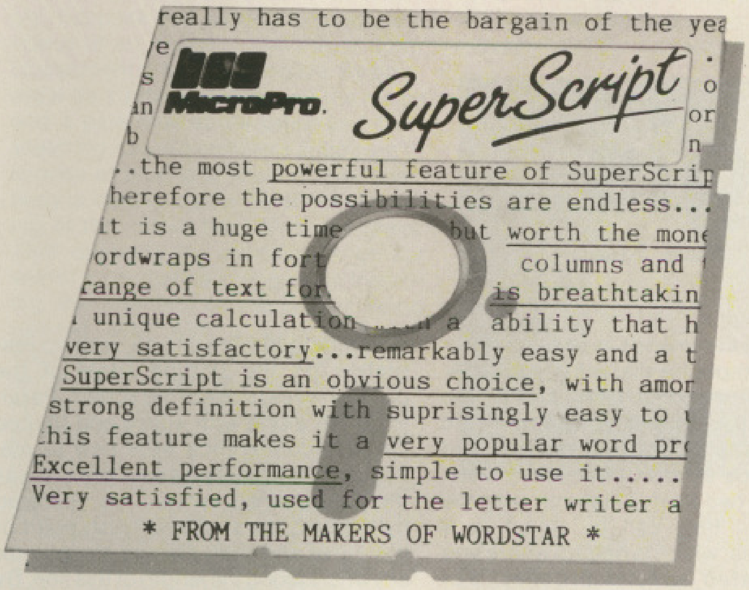

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ImAges

by Aegis

Aegis IMAGES is a creative paint/draw package which starts to reveal the true graphics strength of the AMIGA. I have spent a great deal of time exploring and using IMAGES and my efforts have been both creatively rewarding as well as pleasurable in the extreme. IMAGES, whilst not turning me into a Renoir has certainly taught me a great deal about texture and the implications of colour. Considering that my personal background is essentially applied science and with no art training or quite candidly little interest, I now have few qualms about tackling a project with IMAGES.

I created some of the pictures in this issue using IMAGES. It must say a lot if I have the confidence to expose my efforts in this field in such a public manner! So what was it about IMAGES that caused me to take up the mouse and start 'painting'? One word — *speed*. The ability to accept and translate your ideas quickly upon the screen before they disappeared from your mind — the ability to modify large ares of the screen without taking minutes of your time — the ability to undo the last command — all of these contributed in making IMAGES not so much a piece of personal computer software rather an experience to be savoured and remembered.

Aegis IMAGES is supplied on an unprotected disk which the user can install onto hard disk and comes complete with an 84 page manual. The manual is in fact a full-blown book containing a glossary and index. The standard of writing is very high and provides object lessons in software description. The manual provides little in the way of graphic techniques and concentrates purely on the elements of using IMAGES.

The product uses the Intuition environment of windows, menus and icons. Thus the method of moving around and finding the commands is quite straightforward to those familiar with the AMIGA. Starting at the right hand end of the menu bar, the first section deals with the brushes. There are 16 in number and each can be edited to the user's taste. There are two useful features with the brushes — they can be saved as a separate file, which is helpful where you have created special brushes. For example one of my earliest experiments involved making street maps by defining road junctions, railway lines, churches, etc., with brushes I was able to build up a map very quickly indeed. I then extended this idea to electrical circuits using symbols such as resistors, capacitors and inductors with complete success.

The second feature of brushes has huge potential in the ability to select an area of the screen and pick this up as a brush. Airbrushes also form part of this section and can be defined in terms of spray density and spread.

The next menu selection dealt with shapes and in addition to the usual rectangles, circles and area fills, there were some facilities that I had not seen before. Selecting polygons opened a submenu indicating the number of sides which ranged from 2 to 19, with no restriction on the starting angle of the polygon to the sides of the screen. Parallelogram along with elipse and limited circle circumference were new to me. Arguably the most powerful feature was the user-defined curve. This operated by defining the start and finish point of the curve and then placing the pointer anywhere along the length of this line. By moving the pointer away from the line, the curve was then formed. The effect was rather like that of an elastic band being stretched around a curved surface — very impressive.

This section of shapes also included the fonts selection and provides for up to 6 different types of font on screen. There is room for a product enhancement here in the next version since one very useful attribute was to make up posters quickly, literally as the poster contents were being dictated. Let's hope we can have yet more fonts in the next released version.

When you move onto the following menu selection, namely colours you begin to appreciate the depth of the graphics abilities of the AMIGA. There are 32 colours on IMAGES palette and colours are defined using a proportional gadget which allows modification of the red (R), green (G) and blue (B) components of the selected colour by means of adjusting the colour *hue, luminosity* (black/white ratio) and colour *saturation* or intensity. In this way a colour can be defined from the machine's master palette range of 4,016 colours. Editing of the existing palette can be carried out using the *copy* or *pick* functions. The former allows copying of one colour to another in the palette — the latter allows the colour to be selected from an existing colour on your picture. A very powerful facility called *range* allows the user to provide a range of shades, the

Images

number of shades being limited to 32 (!) within one range selection. For example, suppose you wanted to produce a scene of an ocean — the major color component is going to be blue. By placing a dark blue at one end of the range and a pale blue at the other and then selecting *range* a complete spectrum of shades of blue is produced. *Transparency* is used to create the effect of looking at the colour through tinted glass. This operates by choosing a colour within a pre-defined range and matching the intensity of the colour being painted over with a suitable match inside the range. *Glow* operates in a similar manner to *transparency* by using a range to decide what a colour being painted over will be changed into. When the colour being painted over is not inside the defined range it is changed into the first colour in the defined range — on the next occasion this occurs, the overlayed colour is changed into the next colour in the range and so on.

Patterns form part of the colour menu and have much the same functions of *copy, get* and *pick*. This latter function is very useful for creating patterns from areas on the painting and some very unusual and complex patterns can be defined. The patterns can be edited in the manner of brushes — that is on a pixel by pixel basis where each pixel can be coloured according to your selection from the colour palette. A pattern can also be used in same way as colour and a brush can paint a pattern using any of the shapes available. Colours and patterns can be saved as a disk file - useful where patterns are part of a complex painting. A classic demonstration of how IMAGES and the AMIGA can solve a problem can be shown by the following example. I wanted to have a font in a pattern rather than in a colour. The font can only be rendered in a single colour from the menu — ah! he says — but what if I get the font up on the screen and then select the desired pattern and then *fill*. Placing the brush over the font and there it is a character with a pattern rather than a colour.

The most versatile parts of IMAGES are performed by the next menu selection which is appropriately name Special. In this section further parts of the real strength of IMAGES are to be found *Smear* produces an effect rather like finger painting although the outcome is dependent to a large extent on the size of brush used. *Wash* is much more subtle and accurately descriptive producing a watercolour effect on an area under the current brush. *Cycle Colors* will rotate colours on the screen through a pre-defined sequence of colours. The rate of cycling can be graduated on a scale of 40 units and there are 4 separate colour ranges available. *Cycle Draw* does a similar thing except that it applies to the users current brush. The facilities of these two functions allow for dynamic or static animation such as falling snow, running water or apparent movement of the subject's components.

AMIGA = mc²
cci and
Amiga
User

Mirrors are also supported in this menu and allow for horizontal, vertical and diagonal points. The final option is *Effects* and here at last we come to the core of IMAGES. There are 7 effects each representing substantial power to any type and level of user and put the AMIGA at the forefront of personal computer graphics. *Pantograph* duplicates an area of the screen but the second area is not revealed until it is painted over. *Under* defines a priority for colour overlays — for example, you could decide that your red brush must paint over any colour accept blue, white and brown, alternatively put a pattern on the brush and paint it over another pattern. *Grid* provides a grid-like structure overlaying the display, the dimensions or inclusion of the x and y-axis are variable by user control. *Spread* performs a gradient fill with user selection of the gradient rate and fill colour range. The fill can perform in a horizontal or vertical direction. This function is useful for creating clouds or landscapes very effectively and quickly. *Constrain* binds lines drawn to certain angles whilst *Tile* lets the user define an area to be used as a brush. *Antialias* produces a smoothing effect between the boundary of the background and active colour — for example if you were painting over a green area with a red brush the edges would be tinged either orange or yellow depending on the depth of the original colours. Versatile is rather an understatement in describing these functions!

The edit menu provides a *magnify* facility which produces a window that can be moved anywhere on the screen and resized. The actual depth of magnification possible with this function is astonishing with the pixel size being taken to about 1 inch (2.5 cms) at maximum magnification. IMAGES supports 2 screens per application in 512k RAM AMIGA and this facility is used with the next function *frame*. This has to be the flashiest part of IMAGES and is *guaranteed* to draw gasps from onlookers who have never seen it. *Frame* operates by opening a movable, resizable window which is then placed over the area to be framed. The frame then picks up a mirror image of the area which can then be placed elsewhere on the screen. Alternatively the frame can be moved to the other screen within IMAGES for further manipulation. The clever part of *frame* is the facility to resize the frame itself. When this is done the object within the frame *maintains proportion* with the new size. If that is not enough the framed object may be *rotated to any angle within 180 degrees*. Finally, the entire frame contents may be used as a paintbrush! The overall effect is compelling to both user and viewer alike. The final and personal favourite function in the *edit* menu is the *undo* command — this allows a backtrack to take place when you have just put a bright green squiggle across your masterpiece.

The remaining menu termed *Project* deals with file input/output of your screen to disk or printer, etc. Printers are driven through the Preferences section of the Workbench and custom printer drivers must be installed in the devices directory if your printer is not directly supported — the quality of printed output is a function of the printer itself. The file format used by IMAGES is IFF — this is a standardised AMIGA structure for data allowing portability between applications. Established IFF standards being supported by Commodore-AMIGA cover graphics, audio and text files and aims to achieve full integration of user data. For example you can freely interchange files created in Aegis ANIMATOR (reviewed in this issue) or DE-LUXE PAINT or GRAPHICAFT.

So there it is — a piece of software that is not onyl functional and fast but provides an excellent vehicle for user creativity. It is very difficult in the course of a couple of thousand words to adequately describe Aegis IMAGES. To fully appreciate this product you have to see it in the hands of someone who is familiar with both the hardware and software. Note just how fast the creative cycle is. Then, try it for yourself — your perspective on personal computer graphics will be changed forever after this.

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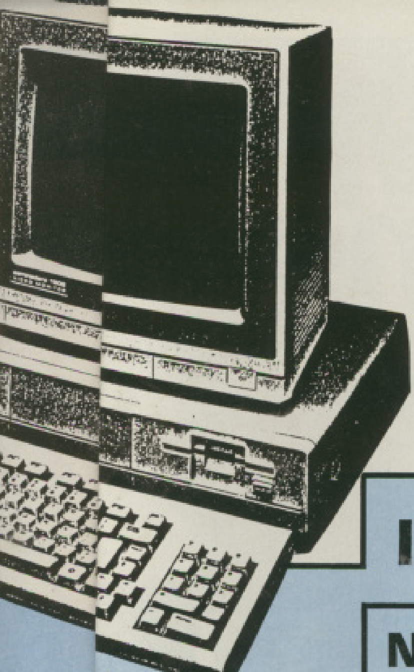

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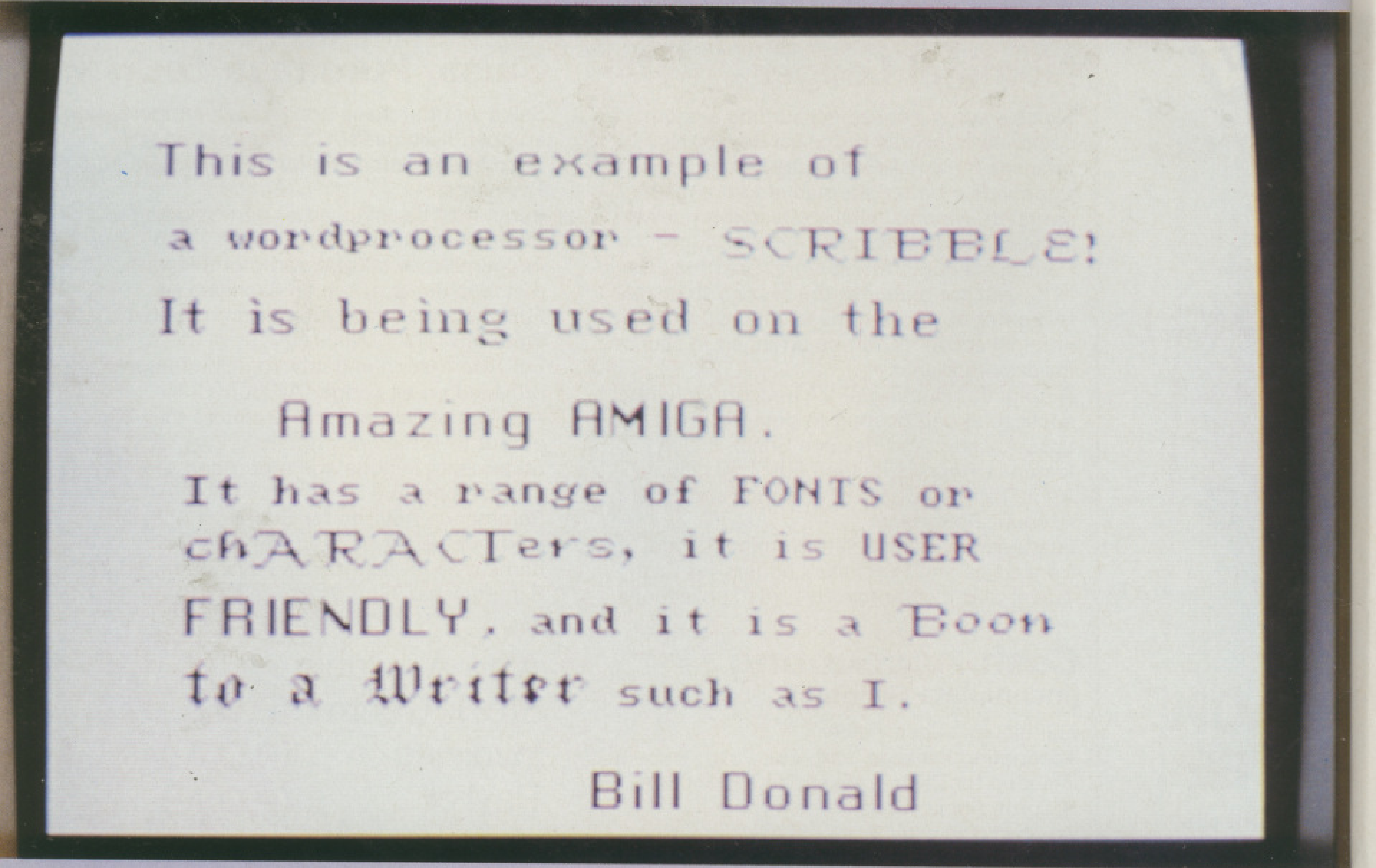
Wordprocessing on the Amiga

Textcraft and Scribble



This is an example of
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It is being used on the
Amazing AMIGA.
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This is a much favoured subject of mine — I have to take more than just a passing interest in wordprocessing being a professional writer. The software is only one half of the wordprocessing equation, the other being the hardware. Therefore, the total equation for me represents the very tools of my chosen trade, and naturally like any craftsman I look to the all-embracing question of 'value for money'. The wordprocessing requirements of a writer/journalist are very different from those of a secretary/-typist/casual user — a writer tends to make more severe demands on the overall system. What I look for above all else is security of my data, in other words I must not be able to burst the my eyes out of their roots after some 8 hours of use. The AMIGA addresses the hardware requirement fairly and squarely and I have no complaints at all in that direction. My own system with two 3.50 inch drives and one 5.25 inch drive which provides me with a little over 2.0MB of on-line storage; the 1070 monitor has a frosted screen which minimises reflection whilst the brightness and contrast controls have sufficient range to cover the most arduous of viewing conditions, including direct sunlight.

What wordprocessing software is available for the AMIGA at present? So far I have managed to locate two, both of which take completely different approaches to the varying demands placed upon them by the user.They are TEXTCRAFT and SCRIBBLE!.

TEXTCRAFT is a U.S. product, marketed in the UK by Commodore. The software under any circumstances, short of catastrophic hardware failure.

The demands I make on the wordprocessing software tend to consist of massive text block shifts with extensive cut and paste, fast spelling checks and continuous word count, multiple file inserts and block saves. In terms of the hardware, my requirements extend to a large memory to hold very large documents, very fast storage since my saving and loading cycles are quite intensive, capacious storage and not least, a screen display that is not going to pull

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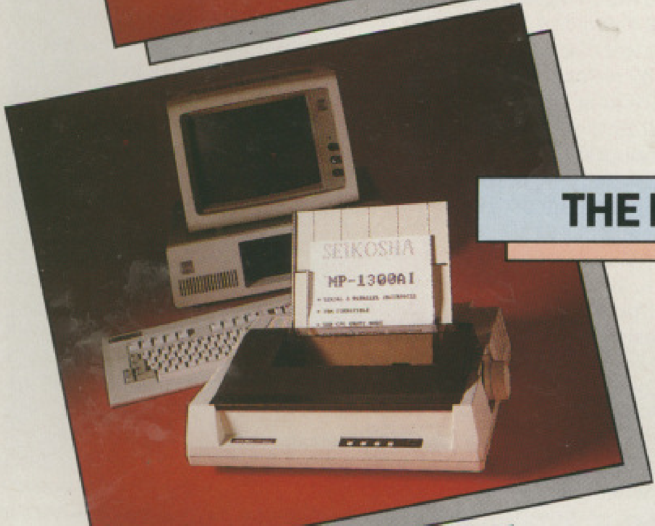

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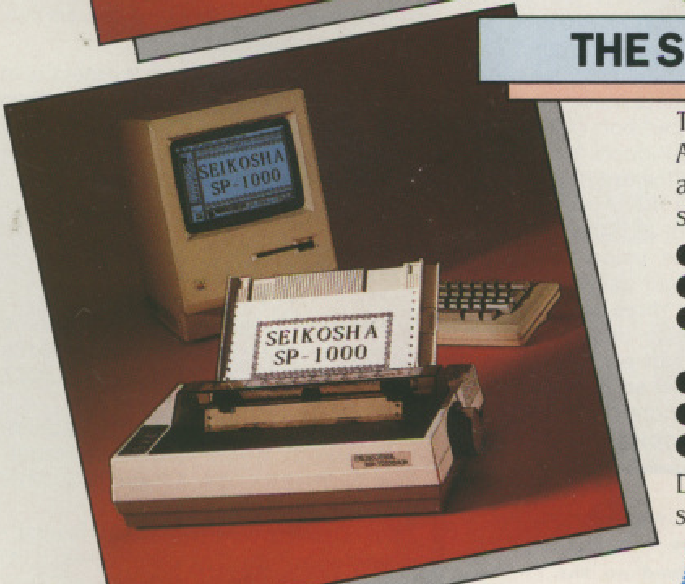

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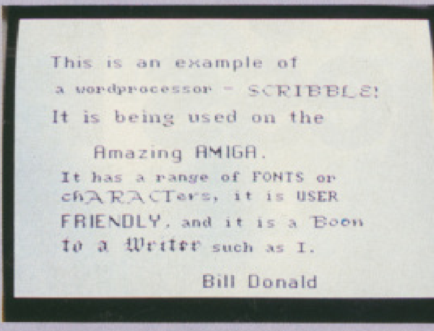
edition I looked at was version 1.0 and my comments relate to this version only. The product is supplied on a non-protected disk along with an extensive manual. The manual follows the excellent format and style of the AMIGA User Manual and is designed to fit into the ring binder supplied with the machine. TEXTCRAFT makes extensive use of the elements of INTUITION, the graphical overlay of the AMIGA operating system. These elements include mouse pointers that change shape and take on a form representing the current operation. For example during a cut and paste operation, the pointer changes to a pair of scissors for the cut and a heavy-duty paint brush during paste. During normal editing mode the pointer is shaped as a pencil and for copying a camera image is used. Some readers may scorn such things as being trivial and childish — in all fairness I also felt the same initially. However, I rapidly changed attitude on observing computer novices very quickly learn and produce some standup work in an extremely short space of time.

The actual wordprocessing facilities themselves were adequate as opposed to comprehensive. For example, no spelling checker and only one document in memory at once. However, the good points were: very fast reformatting of text, different fronts on-screen i.e. bold, italic, underline, subscript and superscript and fast cut and paste. TEXTCRAFT does not support block saves or inserts from disk and the file handling is clumsy. One feature I particularly liked was the inclusion of bare template documents such as business and personal letters, technical and business reports, memos and not least in these times of mass unemployment, a curriculum vitae. Another plus point was that TEXTCRAFT will also read in documents that were created using the NOTEPAD utility in the WORKBENCH.

Because of the visual appeal and hence ease of use TEXTCRAFT is a very good product. The type of purchaser on this version of the product I would envisage to be the light user/repetitive document category. Perhaps the real strength of TEXTCRAFT lies in teaching the elements of wordprocessing for example, in an office staff bureau or schools. It would almost certainly be a cost-effective approach given the other facilities the AMIGA offers particularly in terms of moving users from the AMIGA environment on to the drab world of PC-DOS which, in case you weren't aware the AMIGA can also support. If nothing else, you MUST go and see TEXTCRAFT in use, not only will it show you wordprocessing as it will be in the future, but also give you the feel of an AMIGA's graphics capabilities in a real-life application.



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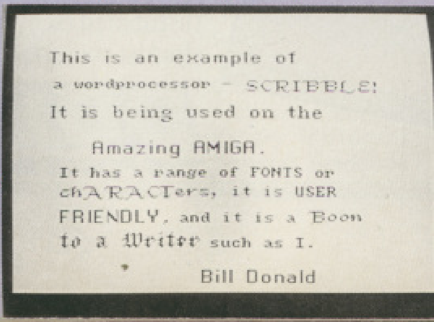
SCRIBBLE! comes from the same stable as ANALYZE! Spreadsheet, (also reviewed in this issue). The product is supplied on an unprotected disk, so backups are not a problem and a good user manual. The manual does not make too many concessions to learning about wordprocessing, but it does fully cover the facilities on offer from the product. SCRIBBLE! takes the much more conventional wordprocessing route and concentrates less on the visuals and more on the facilities. Obviously this product appealed much more to me as a writer — indeed, I decided to give SCRIBBLE! a realistic test of it's capabilities. This was done by writing *EVERYTHING* for this particular magazine issue using SCRIBBLE! Not only was SCRIBBLE! robust enough to withstand the vast amount of editing, but I never managed to lose a single character during this period.

A full range of format commands are available for headers, footers, offsets, soft-spaces, etc., all the usual paraphenalia of wordprocessing. Although a continuous word and character counter is available, no spelling checker yet, although this should be rectified in the next version which will be issued free to registered users. This also applies the mail merge facility which is also not present in the version of SCRIBBLE! under review (v1.01). SCRIBBLE! was undoubtedly more usable than TEXTCRAFT in terms of the facilities available. Probably the most powerful feature was the ability to partition memory and create additional windows. A document file could then be loaded into the window thus allowing the user to work on several documents at once merely by switching windows using the INTUITION depth-arranger gadgets. SCRIBBLE! would allow three documents in memory at any one time along with complete resizing of each window so that you could view segments of each document. Even more impressive was the ability to *cut, copy and paste across windows*. This is an extremely advanced feature demonstrating further the inherent strength of the AMIGA.



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This 'cross-window' ability allowed me to edit my text very quickly indeed and naturally this was reflected in the best productivity figures I have ever achieved in one day. The next note will probably mean more to those readers who are also professional writers — the creativity process is not necessarily continuous and there are always those periods when the flow comes to a halt... solution:- carry another document in memory and switch to this when you become bored or tired of the apparently uninspired text. I found this to be the secret of dramatically increasing my own throughput.

SCRIBBLE! makes use of predefined format files which allow you to set printer control sequences and standard text lines such as letter headings, etc. However, one of the more useful abilities with these format files is to change screen and character colour which further reduced the 'boredom quotient' of wordprocessing when required. I also liked the facility which gave the option to save documents to disk in ASCII format. This is of particular value in terms of text portability across different applications such as other wordprocessors, spreadsheets and data communications between machines directly or using a modem.

Summarising both products I would say that neither has reached the status of being completely through their development cycle. However, do not let those words detract you from purchasing them. For one thing, there will be upgrades available and secondly they are robust enough to withstand the toll of daily use — I could get neither product to crash the system. Wordprocessing is a rather emotive subject in terms of personal computers and to a certain extent individual taste.

A demonstration of both is essential in order to appreciate fully and then decide which product will satisfy the user's requirements. My own personal choice at this stage is SCRIBBLE!

Textcraft and Scribble

SCRIBBLE! Supplier:- Micro-Systems Software, 4301-18 Oak Circle, Boca Raton FL 33431 USA. Tel: 305.391.5077

SCRIBBLE! — UK Distributor:- Precision Software Ltd., 6 Park Terrace, Worcester Park, SURREY KT4 7JZ. Tel: 01.330.7166

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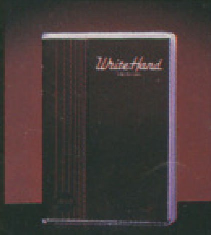

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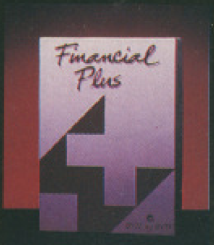

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